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Particulate pollutant data gathered during calendar year 1975 by the cooperating stations of the National Air Surveillance Networks provide the basis for listing the urban and nonurban concentrations of 11 metallic components of suspended particulate matter.

The data are presented as a composite concentration value for each site for each of the four quarters of the calendar year; a yearly average is reported whenever valid data for all four quarters were obtained.

Three previous EPA publications, APTD-0978 and APTD-1467, EPA 600/4-76-041, list metal components of suspended particulate matter collected during 1966 and 1967, 1968 and 1969, and 1970 through 1974, respectively.

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AIR QUALITY DATA FOR METALS

1975

FROM THE

NATIONAL AIR SURVEILLANCE NETWORKS

by

Raymond C. Rhodes and Donald H. Fair
Statistical and Technical Analysis Branch

J.E. Frazer, S.J. Long, W.A. Loseke, V.A. Wheeler and J.F. Walling
Analytical Chemistry Branch

ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NORTH CAROLINA 27711

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PREFACE

The Environmental Monitoring and Support Laboratory of the Environmental Research Center/Research Triangle Park (formerly the Quality Assurance and Environmental Monitoring Laboratory), with the assistance and cooperation of state and local agencies, conducts a variety of air sampling activities to obtain information about the air quality in the United States. Data on concentrations of metallic ions in particulate matter are listed in this report.

It is planned that this report will be updated on an annual basis. Any changes in the introductory material (site descriptions, data table presentations, laboratory methodology, etc.) made by EPA will be included in future reports.

ABSTRACT

Particulate pollutant data gathered during calendar year 1975 by the cooperating stations of the National Air Surveillance Networks (NASN) provide the basis for listing the urban and nonurban concentrations of 11 metallic ions in suspended particulate matter.

The data are presented as a composite concentration value for each site for each of the four quarters of the calendar year; a yearly average is reported whenever valid data for all four quarters are obtained.

Three previous EPA publications, APTD-0978, APTD-1467 and EPA 600/4-76-041, list the concentrations of these metals in suspended particulate matter collected during 1966 and 1967, 1968 and 1969, and 1970 through 1974, respectively. In this report overall national summaries are compared for the years 1970 through 1975.

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ACKNOWLEDGMENTS

The data reported in this publication could not have been gathered without the generous cooperation of the many state and local air pollution control agencies in the operation of the NASN stations. Also, gratitude is due each of the 10 EPA Regions who since 1973 have participated in this program by sending the high volume filters to the centralized laboratory of the Environmental Monitoring and Support Laboratory.

A large portion of the effort devoted to the extraction of filters and the routine operation of the spectrometer was contributed by Louis J. Pranger of the Analytical Chemistry Branch. His efforts are gratefully acknowledged.

The detailed computer tabulations of Table 5-1 were obtained by contract personnel of the Northrop Services, Incorporated.

The authors would like to thank all those who contributed their time and effort to this document.

SECTION 1

INTRODUCTION

ORGANIZATIONAL STRUCTURE

The Environmental Protection Agency (EPA), with the assistance and cooperation of state and local agencies, conducts a variety of air sampling activities to obtain information about the air quality in the United States. One such program, the National Air Surveillance Networks (NASN), has existed for over 20 years. The network has grown and undergone many modifications since its beginning, especially during the last 5 years. Table 1-1 catalogues these recent changes.

The first change, in sampling schedule, was brought about to encourage synoptic sampling with state/local ambient monitoring programs. In addition to assisting in the operation of the EPA sampling network, state and local air pollution control agencies administer their own air pollution control programs.

The second change, decentralization, was made to shift air monitoring responsibility from one centralized laboratory to 10 EPA regional laboratories. This modification was implemented over the 14 month period from December 1972 through January 1974. Moreover, in January 1974, the responsibilities of the 10 EPA Regional Offices were extended further to the overall management of the NASN sites. Additional responsibilities of the Regional Offices include weighing the filters and determining the concentrations of total suspended particulates (TSP). Table 1-2 and Figure 1-1 indicate the locations of the Regional Offices and the geographic areas of responsibility.

The EPA regional laboratories send the filters to the Environmental Monitoring and Support Laboratory (EMSL) for routine trace constituent[1] analyses. The filters are then stored in the Filter Bank for future non-routine, special analyses as required.

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[1]Metals, nonmetallic inorganic ions and benzo(a)pyrene (BaP).

TABLE 1-1. NASN NETWORK MODIFICATIONS

Month/Year	Change	Impact*
January 1972	Sample schedule changed from random biweekly to 12-day systematic samples, first sample collected 1/10/72.	All sites
December 1972	Decentralization, Region II	NJ, NY, PR
April 1973	Decentralization, Region I	CT, ME, MA, NH, RI, VT
December 1973	Decentralization, Regions V, VII, VIII, IX, X	IL, IN, MS, MN, OH, WI, IA, KS, MO, NE, CO, MT, ND, SD, UT, WY, AZ, CA, HI, NV, AK, ID, OR, WA
January 1974	Decentralization, Regions III, IV, VI	DE, DC, MD, PA, VA, WV, AL, FL, GA, KY, MS, NC, SC, TN, AR, LA, NM, OK, TX

*Abbreviations coincide with standard U.S. mail code designations for states.

Although pollutant monitoring was decentralized, the analysis and publication of the trace pollutant data remains the responsibility of one laboratory, the Environmental Monitoring and Support Laboratory (EMSL), Research Triangle Park, North Carolina. Prior to January 1974, filters also were weighed and analyzed for TSP by EMSL; however, since this date, the EPA regional laboratories have been performing these tasks. It should be noted that the weighing of the filters, before and after sample collection, are used for determination of TSP and are not used in the determination for metals. The particulates containing metals are assumed to be collected uniformly across the filter area.

SAMPLE COLLECTION

Air particulate samples were collected in 1975 at nearly 300 urban and 35 nonurban NASN sites located across the country. The urban sites are generally located within a city or town or adjacent suburbs. The nonurban sites were originally located in rural or remote areas, although with the passage of time, many of these rural areas, especially in the northeast, have become more heavily populated and thus are subject to increasing influences of spreading urbanization. Voluntary operation of each site is maintained through the generous assistance of local or state agencies and individuals such as park rangers, firemen, or policemen.

Prior to 1972, 24-hour samples (beginning at midnight) were collected according to a biweekly (26 samples per year) modified random sampling schedule. The schedule was modified to ensure equal representation for each of the seven days of the week. Since January 10, 1972, the initial sampling date, samples have been collected every 12th day (30 or 31 samples per year). This sampling schedule eliminates the need for redesignating a new sampling schedule each year. In addition, it is easily implemented in the field.

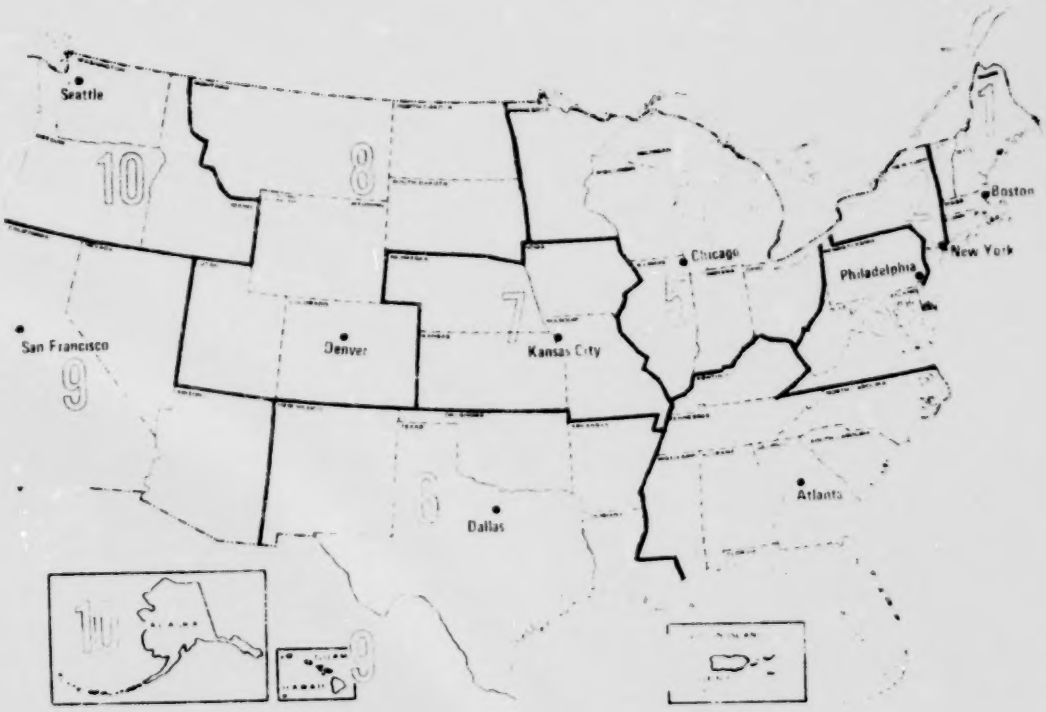
DATA HANDLING AND ANALYSIS

Beginning with the 1974 samples, the responsibility for managing the NASN was given to each of the 10 EPA Regions (Table 1-2). Prior to that time one centralized laboratory located at Research Triangle Park, North Carolina, weighed and analyzed the high volume filters. The 10 EPA Regions send the TSP values to the National Aerometric Data Bank (NADB). The results

TABLE 1-2. EPA REGIONS AND LOCATIONS OF REGIONAL OFFICES

Region	Regional Office Location
I	Boston, Massachusetts
II	New York, New York
III	Philadelphia, Pennsylvania
IV	Atlanta, Georgia
V	Chicago, Illinois
VI	Dallas, Texas
VII	Kansas City, Missouri
VIII	Denver, Colorado
IX	San Francisco, California
X	Seattle, Washington

Figure 1-1. EPA Regions and Regional Offices



of chemical analyses are published by EMSL and are sent to the NADB for archiving.

The metallic ion data reported herein were analyzed by EMSL to determine which data to exclude from data summaries because of anomalies. The precision and bias of the data were determined using statistical analyses. The overall accuracy of the sampling data was evaluated to assist in the interpretation of the air quality summaries.

The air quality summaries include annual concentration data classified as urban and nonurban origin and compiled for the nation as a whole (Tables 4-1 and 4-2). The data for individual site locations are presented as quarterly values, and as annual averages where three or four quarterly values are available (Table 5-1).

SECTION 2

QUALITY CONTROL

INTRODUCTION

Beginning with the previous publication for samples of 1970 through 1974, estimates of analytical performance were given with each data table. This practice is continued for this report for 1975 samples. This section presents the quality control information and the procedures for determining these analytical performance limits.

BLANK FILTERS, INSTRUMENT DETECTION LIMITS AND ANALYTICAL DISCRIMINATION LIMITS

For previous years (1970-1974), analyses of blank filters were made by pooling the extracts from a large number of clean (or unexposed) filters, obtaining a single composite extract, and analyzing the extract periodically throughout the analysis period. Consequently, no estimate of homogeneity of the lot of filters was utilized in the processing of sample data.

For 1975, 27 composite samples of filters were obtained. Each composite arbitrarily contained material from five filters. A total of 17.5 square inches of filter material, or (17.5)÷5=3.50 square inches per filter, was used for each composite determination on each of these 27 extracts.

The average of the 27 determinations was statistically tested against zero using an estimated measure of instrument noise at zero concentration. If the average was not significantly different from zero, the average was considered as below the instrument detection limits (BD), and was so indicated for beryllium, cadmium, cobalt, lead, and vanadium in Table 2-1. The average values for the remaining elements, which were significantly different from zero, are listed in Table 2-1 as the blank filter concentrations for routine sample analyses. All of the analyses of the blank filters were made prior to the analyses of the 1975 samples, instead of during the analysis period for routine samples. These average blank values were

subtracted from each sample result to obtain the amount of the element contained only in the particulate.

The analytical limits of discrimination (LD) for 1975 were obtained by multiplying the standard deviation of the 27 composite blank determinations by the factor 3.3.[1] For previous years (1970-1974), when only ten (10) blank analyses were made for each element, the use of the 3.3 factor provided 95%-95% tolerance limits.[2] For 1970-1974, therefore, the analytical limits of discrimination given in Table 2-1 represented the level below which 97.5% of all such blank determinations would fall with a confidence of 95%. However, for 1975, when 27 blank analyses were made, the use of the 3.3 factor provides 95%-98% tolerance limits.[3] Thus the analytical limits of discrimination given in Table 2-1 represents the level below which 99% of all such blank determinations would fall with a confidence of 95%.

It should be noted that except for beryllium and titanium, the analytical limits of discrimination for 1975 are appreciably higher than for previous years. The 1975 values are considered more realistic because the analyses of the blank filters for 1975 introduced for the first time (1) similar filter-to-filter differences and (2) similar variations from extraction-to-extraction, as exist for the analysis of exposed quarterly composite samples. Neither of these sources of variability was included in the determination of limits of discrimination for previous years.

[1]Experimental Statistics, Handbook 91, NBS, page T-11.

[2]The 95%-95% tolerance limits include a two-tailed interval within which 95% of all individual values should fall with a confidence of 95%.

[3]The 95%-98% tolerance limits include a two-tailed interval within which 98% of all individual values should fall with a confidence of 95%.

TABLE 2-1. BLANK FILTER AND ANALYTICAL LIMIT OF DISCRIMINATION ($\mu g/m^3$)*

Element	1975 Blank Filter Concentration	Analytical Limit of Discrimination (LD)**					
		1970	1971	1972	1973	1974	1975
Beryllium	BD***	.00005	.00005	.00004	.00007	.00008	.00006
Cadmium	BD	.00023	.00023	.00019	.00027	.00036	.0064
Chromium	.0015	.00071	.00071	.00062	.00080	.00084	.0027
Cobalt	BD	.00069	.00069	.00052	.00076	.00063	.0039
Copper	.0024	.0011	.0011	.0012	.0010	.0012	.0057
Iron	.0956	.0082	.0082	.0059	.010	.010	.0450
Lead	BD	.022	.022	.015	.029	.014	.1177
Manganese	.0029	.00040	.00040	.00024	.00055	.00064	.0025
Nickel	.0007	.0014	.0014	.0012	.0017	.0019	.0091
Titanium	.0017	.0039	.0039	.0032	.0045	.0061	.0036
Vanadium	BD	.0021	.0021	.0017	.0025	.0028	.0099

*$\mu g/m^3$ are obtained by multiplying $\mu g/ml$ by a factor (37.89) to convert to total μg/filter and dividing by an assumed air volume of 2500 m^3.

**LD is below the analytical limit of discrimination.

***BD is below the detection limits of the analytical instrumentation and is therefore considered as zero.

PRECISION AND BIAS

Table 2-2 presents precision and bias information together with 95% confidence limits for individual reported values. All the data are expressed as percentages because precision and bias are usually concentration dependent.

Precision has been determined from the standard deviation of percent differences between analyses of duplicate composites.[1] Duplicate composites are treated in the same way with the identity of each being unknown to the analyst. Thus, the variability resulting from cutting and extracting, as well as analysis, is included in the precision estimate. An insufficient number of duplicate results above the LD were obtained for the 1975 samples for beryllium, cadmium, cobalt and vanadium. The precision values from the previous report for samples from the years 1970 through 1974 are presented in Table 2-2 for these metallic ions.

Bias is estimated through the use of spiked samples in which known amounts of the metallic ions are added to one of a pair of duplicate composite samples. In this way, the percentage recovery of the known addition can be determined. Although no spiked samples were analyzed during the analysis period for 1975 samples, as they had been for previous years, the results of spiked samples from previous years are considered to be reasonable measures of bias for 1975 as well. The analysis of spiked samples involves the extraction process as well as the analytical process. The percentage loss values, i.e., 100 minus percent recovery, from the previous report are presented in Table 2-2, and used as a basis for the determination of confidence limits.

PERFORMANCE QUALITY ASSESSMENT

Precision and bias estimates discussed above have been combined to form what is termed "Analytical Quality." The "95% confidence limit" expressions for "Analytical Quality," which appear in Table 2-2 and which are shown on each data table, consist of the correction term for bias (actually 100 minus percent recovery) and a plus or minus term for precision (actually 1.96 times

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[1]The standard deviation of the relative percent differences was divided by $\sqrt{2}$ to obtain the estimate of precision for an individual reported value.

TABLE 2-2. ANALYTICAL PRECISION, BIAS AND CONFIDENCE LIMITS

Elements	Precision		Bias	95% Confidence Limits, %
	Replicate Extractions		% Loss = (100 - % Rec.), %[a]	
	No. of Dup.	C_v, %[b]		
Be	NA[c] (20)	NA (31)	16	16 ± 62
Cd	NA (41)	NA (23)	9	9 ± 46
Co	NA (20)	NA (29)	14	14 ± 58
Cr	22	26	21	21 ± 52
Cu	25	15	28	28 ± 30
Fe	25	17	25	25 ± 34
Mn	25	11	29	29 ± 22
Ni	16	26	21	21 ± 52
Pb	22	13	14	14 ± 26
Ti	25	27	42	42 ± 54
V	NA (16)	NA (20)	21	21 ± 40

[a]From analyses of spiked samples for years 1970-1974.

[b]C_v - Coefficient of variation.

[c]NA - Not available, insufficient number of replicate tests with values above LD for 1975 samples. 1970-1974 values are shown in parentheses.

the coefficient of variation for individual reported values). These confidence intervals are applied to a given datum point (minimum, maximum or percentile) in the following way.

The approximate upper and lower confidence limits* (L_u and L_ℓ, respectively) are calculated as follows:

$$L_u = X(1 + B/100 + 1.96\ C_v/100) \quad (1a)$$

$$L_\ell = X(1 + B/100 - 1.96\ C_v/100) \quad (1b)$$

where X = the individual analysis value (a quarterly composite value)

B = bias, percent (percent loss)

C_v = coefficient of variation of individual analysis

For example, the first cadmium value above LD in Table 5-1 is 0.0078 $\mu g/m^3$ and the confidence limits are indicated as 9% ± 46%. The resulting confidence limits are:

$$L_u = 0.0078(1 + 9/100 + 46/100) = 0.0121\ \mu g/m^3 \quad (2a)$$

$$L_\ell = 0.0078(1 + 9/100 - 46/100) = 0.0049\ \mu g/m^3 \quad (2b)$$

The quarterly composite value is expected to be analytically correct within the above limits.

It is emphasized that the estimates determined by the above formulas consider only variability from sample preparation (i.e., cutting, extraction) and analysis. Further, it is assumed that the bias is constant, and that the inherent variability due to sample preparation and analysis remains unchanged. Furthermore, if additional information were known concerning variation due to factors such as the flow rate or other variables of sampling, then these confidence intervals would be wider. As a result, all confidence limits are under-estimates of the total variability of the total measurement process, which includes sampling, sample handling, and analysis.

*A more exact equation is presented in Appendix A.

SECTION 3

LABORATORY METHODS

SAMPLING PROCEDURES

The mass of particulate matter per volume of air is determined by drawing air through a preweighed glass-fiber filter with a high volume (hi-vol) air sampler and then weighing the soiled filter. In order to obtain the flow rate, a calibrated rotameter is read at the start and finish of the sampling period, and the averaged value is used with a calibration table for that rotameter. The known sampling period (24 hours) and the measured flow rate allow for calculation of the volume of air sampled.

The hi-vol samplers, operating at approximately 1.7 cubic meters per minute, collect particulate matter from about 2500 cubic meters of air during the 24-hour sampling period. The filters used are 20.3 by 25.4 centimeter flash-fired glass-fiber filters, selected for low and uniform background concentrations of those substances to be measured.

As a precaution against pinholes or other flaws that could affect air flow, the filters are screened for imperfections on a light table. Prior to weighing, the filters are equilibrated for a minimum of 24 hours at a temperature of 24° Centigrade and a relative humidity of 50 percent or less. Because any crease in a filter can seriously affect the air flow, filters are weighed with a balance that permits weighing without bending.

The filters are then distributed unfolded to the cooperating local agencies for the urban sites or to the designated participant responsible for operating the nonurban site. After sampling, the filters are folded along the lengthwise centerline with the collected particulate matter inside. They are then returned to a laboratory. The filter with the collected particulates is again equilibrated for at least 24 hours at a temperature of 24° Centigrade and a relative humidity of 50% or less, after which they are weighed to determine the amount of particulate matter that was collected.

METALS

In the analysis for metals, quarterly filter composites are analyzed. A 2.5 by 18.0 centimeter strip is cut across the width from each contributing filter. The length of each strip utilized in the composite is determined by the number of filters included in the quarterly composite. (The total area is fixed at 113 square centimeters.) For example, if there were 5 valid samples in a quarter, a strip approximately 9 cm long would be cut from each filter. The 5-8 strips for the quarter are composited and ashed in an oxygen plasma to oxidize organic material. The metals are then extracted by refluxing for 3 hours with a mixture of nitric and hydrochloric acids.

Quantitative analysis is accomplished by measuring the intensity of the emission line for each metal as the sample extract is excited in an optical emission spectrometer, and by then comparing these measurements with a calibration curve obtained with standard solutions. For the 1975 samples, each reported value is the result of one determination made on each composite extract.

Data for samples collected prior to 1966 may not be directly comparable to the results presented in this report because samples taken from 1957 through 1965 were ashed in a muffle furnace at 500° Centigrade, causing the loss of varying amounts of the elements. For samples collected beginning in 1966, this deficiency has been corrected by ashing in an oxygen plasma at lower temperatures.

SECTION 4

NATIONAL SUMMARY OF AIR QUALITY MEASUREMENTS

The data in Tables 4-1 and 4-2 are cumulative frequency distributions by individual element of all quarterly results for urban and nonurban locations, respectively. Consider, for example, the line for urban 1975 lead. The first number, 695, gives the number of site quarters of lead data for the year. The next entry, minimum, is the lowest urban site quarter result of LD $\mu g/m^3$. Other entries, such as 1.54 under the 90th percentile column, are to be interpreted such that 90 percent of the 695 site-quarter results, i.e., .90x695=626, were equal to or less than 1.54 $\mu g/m^3$. The usual descriptive statistics, means and standard deviations (arithmetic and geometric) are shown in the last 4 columns. Comparisons among years within a pollutant provide a relative indication of trends. For example, lead values across the country appear to be decreasing--not only on the average but also for most percentiles of the frequency distribution shown in Table 4-1. However, some of the year-to-year variability in the national summary tables may be attributed to different sets of sites being used in the summarization depending upon which sites met the completeness criteria for valid data.

Since typical levels of some pollutants may be geographically dependent, the national frequency distribution is not helpful for judging the localized contribution and relative severity of these pollutants for an individual site. Therefore, local site analyses should be performed with data from surrounding sites within the same general geographical area.

The increase in copper ion concentration for 1975 compared to previous years for both urban and nonurban sites should be noted.

TABLE 4-1. URBAN NATIONAL CUMULATIVE FREQUENCY DISTRIBUTIONS

Element	Year	No.	Min.	Percentiles							Max.	Arithmetic		Geometric	
				10	30	50	70	90	95	99		Mean*	Std. Dev.	Mean*	Std. Dev.
Beryllium**	1970	787	LD	LD	LD	LD	LD	0.2	0.3	0.6	2.9	--	0.2	0.01	4.91
	1971	742	LD	LD	LD	LD	LD	0.2	0.3	0.5	0.7	0.1	0.1	0.03	3.22
	1972	708	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1973	559	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1974	594	LD	LD	LD	LD	LD	LD	LD	LD	0.2	--	--	--	--
	1975	693	LD	LD	LD	LD	LD	0.1	0.1	0.2	1.4	0.03	0.1	0.01	3.89
Cadmium	1970	797	LD	LD	LD	LD	LD	.008	.012	.027	.099	.003	.007	--	4.40
	1971	717	LD	LD	LD	LD	LD	.010	.017	.059	.295	.004	.016	--	5.21
	1972	708	LD	LD	LD	LD	LD	.007	.011	.034	.112	.002	.007	--	4.97
	1973	559	LD	LD	LD	LD	LD	LD	.007	.012	.032	.001	.003	--	4.89
	1974	594	LD	LD	LD	LD	LD	.006	.009	.022	.077	.002	.005	--	4.90
	1975	695	LD	LD	LD	LD	LD	.011	.013	.030	.163	.003	.009	.003	4.38

*For years prior to 1975, if the calculated means were less than the discrimination limit, they were reported as LD. For 1975 the calculated means are reported as calculated without regard to the LD.

**Expressed in ng/m^3.

(Continued)

TABLE 4-1 (Continued)

Element	Year	No.	Min.	Percentiles 10	30	50	70	90	95	99	Max.	Arithmetic Mean	Arithmetic Std. Dev.	Geometric Mean	Geometric Std. Dev.
Chromium	1970	797	LD	LD	LD	.006	.009	.017	.024	.046	.130	.008	.011	.006	2.80
	1971	717	LD	LD	LD	.007	.010	.019	.026	.057	.171	.009	.014	.008	2.97
	1972	708	LD	LD	.001	.004	.006	.011	.017	.040	.143	.006	.010	.004	3.17
	1973	559	LD	LD	LD	.004	.007	.015	.023	.074	.228	.007	.015	.004	3.62
	1974	594	LD	LD	.003	.005	.007	.012	.015	.035	.073	.006	.006	.005	2.37
	1975	695	LD	.003	.005	.006	.008	.013	.016	.045	.173	.008	.011	.007	2.76
Cobalt	1970	797	LD	LD	LD	LD	LD	LD	LD	LD	.014	--	.001	--	3.11
	1971	717	LD	LD	LD	LD	LD	LD	LD	LD	.085	.001	.003	--	7.05
	1972	708	LD	LD	LD	LD	LD	LD	LD	LD	.042	--	.002	--	5.97
	1973	559	LD	LD	LD	LD	LD	LD	LD	LD	.027	.001	.002	--	4.45
	1974	594	LD	LD	LD	LD	LD	LD	LD	LD	.029	--	.001	--	4.85
	1975	695	LD	LD	LD	LD	LD	LD	.004	.009	.040	.001	.002	.001	4.73
Copper	1970	790	LD	.04	.06	.10	.16	.32	.50	.99	1.51	.15	.18	.10	2.57
	1971	715	LD	.04	.07	.10	.18	.37	.59	1.28	1.56	.18	.22	.11	2.62
	1972	706	LD	.03	.06	.09	.15	.35	.49	1.00	1.57	.16	.19	.10	2.60
	1973	555	LD	.03	.06	.09	.14	.34	.45	.79	1.44	.15	.17	.10	2.49
	1974	590	LD	.04	.08	.11	.17	.36	.51	.78	1.33	.17	.16	.12	2.26
	1975	695	.02	.06	.12	.18	.28	.52	.69	1.42	3.09	.26	.29	.18	2.45
Iron	1970	796	LD	0.6	1.1	1.4	1.9	3.2	4.2	6.4	14.2	1.7	1.3	1.38	1.98
	1971	717	LD	0.8	1.3	1.7	2.3	3.6	4.9	8.1	16.0	2.1	1.6	1.65	1.98
	1972	708	LD	0.5	0.8	1.0	1.4	2.2	2.8	4.1	6.4	1.2	0.8	1.04	1.83
	1973	558	LD	0.4	0.7	0.9	1.2	1.9	2.6	3.8	6.9	1.1	0.8	0.89	1.89
	1974	594	LD	0.4	0.7	0.9	1.2	1.9	2.4	3.9	6.2	1.1	0.7	0.89	1.87
	1975	695	LD	LD	0.7	1.0	1.3	2.0	2.7	4.5	7.9	1.2	0.8	0.99	1.86

(Continued)

TABLE 4-1 (Continued)

Element	Year	No.	Min.	Percentiles							Max.	Arithmetic		Geometric	
				10	30	50	70	90	95	99		Mean	Std. Dev.	Mean	Std. Dev.
Lead	1970	797	LD	.47	.75	1.05	1.37	2.01	2.59	4.14	5.83	1.19	.80	.99	1.84
	1971	717	LD	.42	.71	1.01	1.42	2.21	2.86	4.38	6.31	1.23	.87	1.00	1.89
	1972	708	LD	.46	.72	.97	1.25	1.93	2.57	3.69	6.88	1.13	.78	.93	1.87
	1973	559	LD	.35	.58	.77	1.05	1.62	2.08	3.03	5.83	.92	.64	.76	1.87
	1974	594	.08	.36	.57	.75	1.00	1.61	1.97	3.16	4.09	.89	.57	.75	1.80
	1975	695	LD	.37	.58	.78	.96	1.54	2.02	3.15	4.94	.89	.59	.74	1.82
Manganese	1970	795	LD	.02	.03	.04	.06	.15	.23	.49	2.10	.07	.12	.04	3.13
	1971	716	LD	.02	.04	.05	.07	.16	.24	.46	1.95	.08	.11	.05	2.81
	1972	708	LD	.01	.02	.03	.04	.09	.12	.22	.86	.04	.06	.03	2.76
	1973	559	LD	.01	.02	.02	.04	.07	.11	.29	.56	.04	.05	.02	2.72
	1974	594	LD	.01	.02	.02	.04	.07	.11	.21	.35	.04	.04	.02	2.39
	1975	695	LD	.01	.02	.03	.04	.07	.10	.18	.72	.04	.04	.02	2.49
Nickel	1970	797	LD	LD	LD	LD	.019	.045	.066	.127	.277	.015	.028	.01	3.41
	1971	717	LD	LD	LD	LD	.018	.045	.064	.126	.347	.015	.028	.01	3.34
	1972	708	LD	LD	LD	LD	.013	.031	.045	.100	.268	.011	.023	.01	3.55
	1973	559	LD	LD	LD	LD	.013	.036	.066	.133	.439	.014	.037	.01	4.19
	1974	594	LD	LD	LD	LD	.012	.026	.034	.057	.639	.009	.029	.001	4.60
	1975	695	LD	LD	LD	.012	.019	.032	.039	.062	.092	.014	.014	.01	2.34
Titanium	1970	797	LD	.02	.03	.04	.06	.09	.12	.18	.26	.05	.03	.04	1.85
	1971	716	LD	LD	LD	.03	.05	.09	.12	.20	.51	.04	.05	.02	2.66
	1972	707	LD	LD	.02	.03	.05	.08	.10	.14	.48	.04	.03	.03	2.21
	1973	559	LD	LD	.02	.04	.05	.08	.10	.14	.23	.04	.03	.03	2.01
	1974	593	LD	LD	.02	.03	.05	.07	.09	.14	.22	.04	.03	.03	2.06
	1975	695	.01	.01	.02	.03	.04	.08	.11	.16	.63	.04	.04	.03	2.35

(Continued)

TABLE 4-1 (Continued)

Element	Year	No.	Min.	Percentiles							Max.	Arithmetic		Geometric	
				10	30	50	70	90	95	99		Mean	Std. Dev.	Mean	Std. Dev.
Vanadium	1970	795	LD	LD	LD	LD	.029	.162	.244	.544	1.222	.052	.116	.020	3.82
	1971	718	LD	LD	LD	LD	.026	.117	.204	.496	1.325	.041	.108	.014	4.20
	1972	708	LD	LD	LD	LD	LD	.075	.100	.195	.858	.022	.056	.006	4.06
	1973	559	LD	LD	LD	LD	LD	.057	.077	.151	.393	.016	.034	.005	3.68
	1974	594	LD	LD	LD	LD	LD	.058	.083	.185	.248	.019	.037	.006	3.51
	1975	695	LD	LD	LD	LD	.020	.050	.069	.152	.296	.018	.031	.015	3.25

TABLE 4-2. NONURBAN NATIONAL CUMULATIVE FREQUENCY DISTRIBUTIONS

Element	Year	No.	Min.	Percentiles 10	30	50	70	90	95	99	Max.	Arithmetic Mean	Arithmetic Std. Dev.	Geometric Mean	Geometric Std. Dev.
Beryllium*	1970	124	LD	LD	LD	LD	LD	LD	LD	.24	.24	--	.03	--	7.62
	1971	97	LD	LD	LD	LD	LD	LD	LD	.16	.24	.01	.03	--	6.10
	1972	137	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1973	100	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1974	79	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1975	99	LD	LD	LD	LD	LD	LD	.07	.16	.22	.01	.03	.0001	5.58
Cadmium	1970	124	LD	LD	LD	LD	LD	LD	LD	LD	LD	.0001	.0000	.0001	1.00
	1971	97	LD	LD	LD	LD	LD	LD	LD	LD	LD	.0001	.0000	.0001	1.00
	1972	137	LD	LD	LD	LD	LD	LD	LD	LD	LD	.0001	.0000	.0001	1.00
	1973	100	LD	LD	LD	LD	LD	LD	LD	LD	LD	.0001	.0000	.0001	1.00
	1974	79	LD	LD	LD	LD	LD	LD	LD	LD	LD	.0002	.0000	.0002	1.00
	1975	98	LD	LD	LD	LD	LD	LD	LD	.0128	.0144	.0005	.0022	.0005	5.40
Chromium	1970	124	LD	LD	LD	LD	LD	.007	.017	.042	.075	.003	.009	--	4.60
	1971	97	LD	LD	LD	LD	.005	.007	.011	.034	.061	.004	.007	--	3.48
	1972	137	LD	LD	LD	LD	.002	.005	.006	.009	.039	.002	.004	--	3.58
	1973	100	LD	LD	LD	LD	.001	.007	.017	.039	.066	.003	.009	--	4.16
	1974	79	LD	LD	LD	LD	.002	.005	.008	.009	.009	.002	.002	--	2.67
	1975	98	LD	LD	LD	.003	.004	.007	.008	.011	.014	.003	.003	.0029	2.29
Cobalt	1970	124	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1971	97	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1972	137	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1973	100	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1974	79	LD	LD	LD	LD	LD	LD	LD	LD	LD	--	--	--	--
	1975	98	LD	LD	LD	LD	LD	LD	LD	.005	.006	.002	.001	.0014	3.19

*Expressed in ng/m^3

(Continued)

TABLE 4-2 (Continued)

Element	Year	No.	Min.	Percentiles							Max.	Arithmetic		Geometric	
				10	30	50	70	90	95	99		Mean	Std. Dev.	Mean	Std. Dev.
Copper	1970	124	LD	.029	.056	.081	.164	.342	.526	1.053	1.195	.158	.188	.081	2.56
	1971	96	.014	.029	.086	.141	.208	.495	.648	.785	.880	.205	.196	.150	2.24
	1972	137	LD	.025	.058	.116	.193	.377	.660	.804	.812	.178	.183	.116	2.33
	1973	99	.011	.035	.075	.119	.219	.440	.571	.849	.983	.196	.196	.138	2.30
	1974	78	.023	.039	.081	.124	.238	.461	.643	.860	1.147	.208	.210	.147	2.31
	1975	98	.014	.066	.122	.176	.312	.627	1040	3.717	4.068	.364	.637	.180	3.26
Iron	1970	124	LD	.13	.22	.32	.45	.68	.85	1.58	1.62	.38	.27	.31	1.90
	1971	97	.07	.18	.27	.43	.63	.90	1.04	1.52	2.80	.51	.38	.41	1.95
	1972	137	LD	.05	.12	.19	.31	.56	.68	1.06	1.15	.25	.22	.19	2.11
	1973	99	.01	.02	.11	.16	.21	.34	.47	.88	1.19	.19	.18	.14	2.19
	1974	79	LD	.04	.12	.19	.28	.47	.55	.65	.69	.24	.17	.19	1.92
	1975	98	LD	LD	LD	LD	LD	LD	LD	.67	.99	.23	.16	.19	1.88
Lead	1970	124	LD	LD	LD	LD	LD	.267	.383	.628	1.471	.088	.190	.040	3.72
	1971	85	LD	LD	LD	LD	LD	.127	.204	.783	1.134	.047	.155	.008	4.80
	1972	137	LD	LD	LD	.107	.166	.294	.392	.950	1.048	.139	.169	.090	2.59
	1973	100	LD	LD	LD	LD	.132	.233	.392	.698	.939	.110	.149	.068	2.77
	1974	79	LD	LD	.053	.087	.141	.221	.317	.496	.534	.111	.111	.083	2.30
	1975	98	LD	LD	LD	LD	.144	.255	.311	.431	.649	.085	.126	.054	2.95
Manganese	1970	124	LD	.003	.006	.012	.018	.035	.041	.066	.068	.015	.013	.012	2.11
	1971	97	LD	.003	.009	.013	.022	.032	.041	.064	.102	.018	.015	.013	2.09
	1972	137	LD	LD	LD	.003	.007	.016	.029	.039	.046	.007	.009	.003	2.81
	1973	100	LD	LD	LD	.002	.004	.011	.022	.030	.030	.004	.005	.002	2.79
	1974	79	LD	LD	.001	.004	.007	.017	.023	.027	.033	.006	.007	.004	2.52
	1975	98	LD	LD	.004	.006	.009	.014	.018	.031	.040	.007	.007	.015	2.19

(Continued)

TABLE 4-2 (Continued)

Element	Year	No.	Min.	Percentiles						Max.	Arithmetic		Geometric	
				10	30	50	70	90	95	99		Mean	Std. Dev.	Mean	Std. Dev.
Nickel	1970	124	LD	LD	LD	LD	LD	.019	.024	.076	.097	.005	.014	.001	4.58
	1971	97	LD	LD	LD	LD	LD	LD	LD	.046	.083	.003	.011	.001	5.28
	1972	137	LD	LD	LD	LD	LD	.009	.015	.076	.082	.004	.012	.001	4.64
	1973	100	LD	LD	LD	LD	LD	.014	.059	.188	.280	.011	.037	.001	4.93
	1974	79	LD	LD	LD	LD	LD	LD	.006	.020	.026	.002	.004	.001	3.62
	1975	98	LD	LD	LD	LD	LD	.015	.024	.036	.105	.005	.013	.0045	4.16
Titanium	1970	124	LD	LD	.007	.011	.015	.023	.028	.047	.093	.013	.011	.011	2.15
	1971	97	LD	LD	LD	LD	.028	.042	.049	.065	.069	.017	.020	.010	2.54
	1972	137	LD	LD	.011	.024	.038	.054	.069	.081	.092	.027	.022	.024	2.04
	1973	100	LD	LD	.012	.027	.040	.054	.068	.076	.084	.028	.021	.024	1.93
	1974	78	LD	LD	LD	.016	.026	.043	.049	.053	.066	.020	.017	.014	2.09
	1975	98	LD	LD	.007	.010	.013	.035	.047	.131	.167	.016	.024	.014	2.95
Vanadium	1970	124	LD	LD	LD	LD	LD	.021	.035	.112	.112	.008	.019	.001	4.04
	1971	97	LD	LD	LD	LD	LD	LD	.036	.114	.209	.007	.024	.001	5.04
	1972	137	LD	LD	LD	LD	LD	LD	.025	.047	.205	.004	.019	.001	5.77
	1973	100	LD	LD	LD	LD	LD	LD	LD	.028	.035	LD	.005	.001	3.88
	1974	79	LD	LD	LD	LD	LD	LD	LD	.021	.023	LD	.004	.001	3.36
	1975	98	LD	LD	LD	LD	LD	.017	.020	.027	.036	.004	.007	.006	3.42

Section 5

DATA TABLES

The data are arranged by urban and nonurban sites. Each monitoring site is assigned a unique code number as described in the SAROAD Station Coding Manual.*

Data are presented as quarterly composite and yearly average values expressed in micrograms (nanograms in the case of beryllium) per cubic meter of air. Quarterly composites are judged to be representative and are included in the tables (1) if there are at least five valid filters per quarter and (2) if one month lacks any valid samples, the other two months in that quarter have at least two valid samples. If only one quarterly composite has a "zero" concentration (shown as LD in the data tables), the yearly mean is calculated by replacing the LD with a value equal to one-half the LD shown in Table 2-1. If two or more quarters within a site year are below the analytical discrimination value, the yearly average is not calculated. Prior to the analysis of 1970 samples, the general procedure was to analyze for trace metal concentrations only when the entire year was valid, i.e., all 4 quarters were represented. This practice meant that the tables were complete without blanks. This procedure has been liberalized during the period since 1970 to allow for analyses of any valid quarters for a given station even though the entire year may not be represented.

Data table headings present the bias and precision information from Table 2-2. For example, the headings for beryllium include the following:

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*Fair, D.H. SAROAD Station Coding Manual. U.S. Environmental Protection Agency, Office of Air Programs, Research Triangle Park, North Carolina. Publication No. APTD-0907. February 1972.

95% Confidence Limits	
Bias (%)	Precision (%)
16	±62

The bias and precision values can be used in equations (5a) and (5b) to compute upper and lower 95 percent confidence limits on the true concentration for a given reported concentration, i.e., for a given quarterly composite value. For example, the confidence limits for a reported beryllium concentration of .84 ng/m^3 would be:

$$L_u = X(1 + B/100 + 1.96\ C_v/100) \qquad (5a)$$

$$= .84(1 + 16/100 + 62/100)$$

$$= 1.495\ ng/m^3$$

$$L_\ell = X(1 + B/100 - 1.96\ C_v/100) \qquad (5b)$$

$$= .84(1 + 16/100 - 62/100)$$

$$= .454\ ng/m^3$$

Thus, the interval between .45 ng/m^3 and 1.50 ng/m^3 would be expected to include the true value with a confidence of 95 percent.

POLLUTANT : 12105 - BERYLLIUM
METHOD : HI-VOL EMISSION SPECTRA GRAPHITE FURNACE
UNITS : NANOGRAM METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
PE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .00004
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 14 PRECISION (P) +- 42

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	LD	LD	.0733	LD	
GADSDEN						
SITE 001	75	LD	LD	.1054	LD	
HUNTSVILLE						
SITE 001	75	LD	LD	LD	LD	
MOBILE						
SITE 001	75	LD	LD	LD	.1008	
MONTGOMERY						
SITE 001	75	LD	LD	LD	LD	
ALASKA						
ANCHORAGE						
SITE 003	75	LD	LD	LD	LD	
FAIRBANKS						
SITE 001	75	LD	LD	LD	LD	
ARIZONA						
DOUGLAS						
SITE 004	75	LD	LD	LD	LD	
PHOENIX						
SITE 002	75	LD	LD	LD	.1519	
TUCSON						
SITE 001	75	LD	LD	LD	.1073	
ARKANSAS						
EL DORADO						
SITE 003	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	LD	LD	.0834	LD	
TEXARKANA						
SITE 001	75	.1002	LD	LD	LD	
WEST MEMPHIS						
SITE 001	75	1.3701	LD	LD	LD	
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	LD	LD	LD	.0920	
BERKELEY						
SITE 001	75	LD	LD	LD	LD	
BURBANK						
SITE 002	75	LD	LD	LD	LD	
FRESNO						
SITE 002	75	LD	LD	LD	LD	
GLENDALE						
SITE 001	75	LD	LD	LD	LD	
LONG BEACH						
SITE 001	75	LD	LD	.0674	LD	
LOS ANGELES						
SITE 001	75	LD	LD	LD	.0869	
OAKLAND						
SITE 001	75	LD	LD	LD	LD	
ONTARIO						
SITE 001	75	LD	LD	LD	LD	
PASADENA						
SITE 002	75	LD	LD	LD	LD	
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	LD	LD	LD	LD	
SAN BERNARDINO						
SITE 001	75	LD	LD	LD	LD	
SAN DIEGO						
SITE 004	75	LD	LD	LD	LD	
SAN FRANCISCO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
SAN JOSE						
SITE 004	75	LD	LD	LD	LD	
SANTA ANA						
SITE 001	75	LD	LD	LD	LD	
TORRANCE						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
DENVER						
SITE 001	75	LD	LD	.0984	LD	
DENVER						
SITE 002	75	.1453	.0996	LD	.1339	.1310
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	LD	LD	LD	LD	
HARTFORD						
SITE 002	75	LD	LD	LD	LD	
NEW HAVEN						
SITE 001	75	LD	LD	LD	LD	
WATERBURY						
SITE 001	75	LD	LD	LD	LD	
WATERBURY						
SITE 133	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	LD	LD	LD	LD	
WILMINGTON						
SITE 002	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	LD	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.1015	LD	LD	LD	
MIAMI						
SITE 002	75	LD	LD	LD	LD	
ST PETERSBURG						
SITE 002	75	LD	LD	LD	LD	
TAMPA						
SITE 002	75	LD	LD	LD	LD	
GEORGIA						
ATLANTA						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	LD	LD	LD	LD	
SAVANNAH						
SITE 001	75	LD	LD	LD	LD	
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	LD	LD	.1014	
EAST ST LOUIS						
SITE 001	75	LD	LD	LD	LD	
JOLIET						
SITE 001	75	LD	LD	LD	LD	
MOLINE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12105 - BERYLLIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
RE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LDL) .00004
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 1A PRECISION (R) = .42

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	LD	LD	LD	LD	
PEORIA						
SITE 001	75	LD	LD	.2356	.1815	LD
ROCKFORD						
SITE 001	75	LD	LD	LD	LD	
ROCK ISLAND						
SITE 001	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 001	75	LD	LD	LD	LD	
INDIANA						
EAST CHICAGO						
SITE 001	75	.0220	.1541	LD	LD	
EVANSVILLE						
SITE 001	75	LD	LD	.1177	LD	
FORT WAYNE						
SITE 002	75	LD	LD	LD	LD	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.1524	LD	.1903	LD	
HAMMOND						
SITE 002	75	.0896	.0695	.1961	LD	.1014
INDIANAPOLIS						
SITE 001	75	.0840	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.0499	LD	LD	
NEW ALBANY						
SITE 002	75	LD	LD	.1440	LD	
SOUTH BEND						
SITE 002	75	LD	LD	.1145	LD	
TERRE HAUTE						
SITE 001	75	.0813	.1120	.1225	LD	.1184
IOWA						
CEDAR RAPIDS						
SITE 018	75	.1048	LD	LD	.0844	
DAVENPORT						
SITE 001	75	LD	LD	LD	LD	
DES MOINES						
SITE 001	75	LD	LD	LD	.0507	
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	LD	LD	LD	LD	
DUBUQUE						
SITE 008	75	LD	LD	LD	.0611	
WATERLOO						
SITE 004	75	.0695	LD	LD	LD	
WATERLOO						
SITE 004	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.0814	.0851	.1117	.0818	.0900
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE-001	75	LD	LD	LD	.0567	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	LD	LD	LD	LD	
KENTUCKY						
ASHLAND						
SITE 002	75	.1900	.1411	.1177	.1284	.1362
BOWLING GREEN						
SITE 001	75	LD	LD	LD	LD	
COVINGTON						
SITE 001	75	.1082	LD	.0800	LD	
LEXINGTON						
SITE 001	75	.1411	.0944	LD	LD	
LOUISVILLE						
SITE 002	75	LD	LD	LD	.0677	
LOUISIANA						
BATON ROUGE						
SITE 002	75	LD	LD	LD	LD	
IBERVILLE PAR						
SITE 002	75	LD	LD	LD	LD	
NEW ORLEANS						
SITE 002	75	LD	LD	LD	LD	
SHREVEPORT						
SITE 001	75	LD	LD	LD	LD	
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	LD	
MARYLAND						
BALTIMORE						
SITE 001	75	LD	LD	LD	LD	
MASSACHUSETTS						
BOSTON						
SITE 001	75	LD	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	LD	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	LD	
WORCESTER						
SITE 004	75	LD	LD	LD	LD	
MICHIGAN						
DEARBORN						
SITE 001	75	.2332	LD	.0770	LD	
DETROIT						
SITE 001	75	.1672	.1077	.1043	.0689	.1120
FLINT						
SITE 008	75	LD	LD	LD	LD	
GRAND RAPIDS						
SITE 001	75	LD	LD	LD	LD	
LANSING						
SITE 001	75	LD	LD	.1182	LD	
SAGINAW						
SITE 001	75	LD	LD	LD	LD	
TRENTON						
SITE 004	75	LD	LD	LD	LD	
MINNESOTA						
DULUTH						
SITE 001	75	LD	LD	LD	LD	
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12105 = BERYLLIUM — URBAN
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE — AE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .00006
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 38 PRECISION (%) +- 42

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 022	75	LD	LD	LD	LD	
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	LD	LD	LD	LD	
MISSISSIPPI						
JACKSON						
SITE 002	75	.0661	LD	LD	LD	
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	LD	.0847	LD	
ST LOUIS						
SITE 001	75	.0474	.0779	.0956	LD	.0770
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	LD	.4244	
NEBRASKA						
LINCOLN						
SITE 002	75	.0812	.0492	LD	.0402	.0705
OMAHA						
SITE 001	75	.1133	LD	LD	LD	
OMAHA						
SITE 030	75	LD	LD	LD	.0793	
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	.0483	LD	LD	LD	
RENO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	LD	LD	LD	LD	
NEW JERSEY						
BAYONNE						
SITE 001	75	LD	LD	LD	LD	
CAMDEN						
SITE 001	75	.0761	.1116	.0770	LD	.0882
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	LD	LD	.0589	
ELIZABETH						
SITE 002	75	LD	LD	LD	LD	
GLASSBORO						
SITE 001	75	.0832	LD	.0769	LD	
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0647	LD	LD	LD	
NEWARK						
SITE 001	75	LD	LD	LD	LD	
PATERSON						
SITE 001	75	LD	LD	LD	LD	
PERTH AMBOY						
SITE 001	75	LD	LD	.0844	LD	
TRENTON						
SITE 001	75	.0671	LD	LD	LD	
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	LD	LD	LD	LD	
BUFFALO						
SITE 001	75	.0402	.0839	LD	.0458	.0697
NEW YORK CITY						
SITE 014	75	LD	LD	LD	LD	
NIAGARA FALLS						
SITE 001	75	.1149	.0702	LD	.0488	.0812
ROCHESTER						
SITE 001	75	.0421	.0598	.0488	.0887	.0484
SYRACUSE						
SITE 001	75	.0808	LD	LD	LD	
UTICA						
SITE 001	75	LD	LD	LD	LD	
YONKERS						
SITE 001	75	LD	.1219	.1218	LD	
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	LD	LD	LD	.0588	
DURHAM						
SITE 001	75	LD	.0645	.0730	LD	
DURHAM						
SITE 006	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	LD	LD	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	LD	
WINSTON-SALEM						
SITE 002	75	.0448	LD	.0735	.1721	.1081
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.0700	LD	LD	LD	
OHIO						
AKRON						
SITE 014	75	.3825	.1912	.1511	.0452	.2031
CANTON						
SITE 001	75	.1493	.1272	.0805	LD	.1173
CINCINNATI						
SITE 001	75	.1265	.0905	.1109	LD	.1093
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.0903	.1212	.0906	LD	.1007
DAYTON						
SITE 001	75	.2185	.2958	.1333	.1473	.1912
IRONTON						
SITE 009	75	.1668	.1304	.1023	.0496	.1160
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	.0806	.0783	.0803	LD	.0789
STEUBENVILLE						
SITE 012	75	LD	LD	.2174	.0895	
TOLEDO						
SITE 001	75	.1118	.0998	.0936	LD	.1016
YOUNGSTOWN						
SITE 001	75	.1209	.1831	.1073	.1428	.1495
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	LD	LD	LD	LD	
TULSA						
SITE 110	75	LD	LD	LD	LD	
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12105 = BERYLLIUM — URBAN
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE — PE
UNITS : MG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .00004
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 1A PRECISION (P) +- 42

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 001	75	LD	LD	LD	LD	
MOBILE						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	LD	LD	LD	LD	
ALTOONA						
SITE 001	75	.0712	LD	.0618	LD	
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	.0991	LD	.0933	
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 101	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.1503	LD	LD	LD	
JOHNSTOWN						
SITE 001	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	LD	
PHILADELPHIA						
SITE 004	75	.0877	.0945	LD	LD	
PITTSBURGH						
SITE 001	75	.1802	.1337	.1443	.1124	.1427
READING						
SITE 001	75	LD	LD	LD	LD	
SCRANTON						
SITE 001	75	.1682	.1248	.0926	LD	.1287
WARMINSTER						
SITE 002	75	.0470	.0831	LD	LD	
WEST CHESTER						
SITE 110	75	LD	.0450	LD	LD	
WILKES-BARRE						
SITE 001	75	.1100	.0973	.0923	.0804	.0948
YORK						
SITE 322	75	.1136	LD	LD	LD	
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	.0889	LD	
GUAYANILLA						
SITE 004	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	LD	LD	LD	LD	
PONCE						
SITE 002	75	LD	LD	.0639	LD	
SABANA SECA						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0724	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.0934	LD	LD	LD	
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	LD	LD	LD	LD	
GREENVILLE						
SITE 001	75	LD	LD	LD	LD	
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.0692	LD	.0733	.1038	.0785
KNOXVILLE						
SITE 002	75	.0741	LD	.0649	.0887	.0746
MEMPHIS						
SITE 001	75	LD	LD	LD	LD	
NASHVILLE						
SITE 001	75	LD	.0983	LD	LD	
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	LD	LD	LD	LD	
BEAUMONT						
SITE 001	75	LD	LD	LD	LD	
CORPUS CHRISTI						
SITE 001	75	LD	LD	LD	LD	
DALLAS						
SITE 002	75	LD	LD	LD	LD	
EL PASO						
SITE 002	75	.1956	LD	LD	.0487	
FORT WORTH						
SITE 001	75	LD	LD	LD	LD	
HOUSTON						
SITE 001	75	LD	LD	LD	LD	
LUBBOCK						
SITE 001	75	LD	LD	LD	LD	
PASADENA						
SITE 002	75	.0796	LD	LD	LD	
SAN ANTONIO						
SITE 034	75	LD	LD	LD	LD	
WICHITA FALLS						
SITE 002	75	LD	LD	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	LD	.0849	LD	
SALT LAKE CITY						
SITE 001	75	.0715	.0702	LD	.0699	.0671
VERMONT						
BURLINGTON						
SITE 003	75	LD	LD	LD	.0894	
VIRGINIA						
DANVILLE						
SITE 001	75	.1470	.1675	LD	.3500	.2142
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	LD	LD	LD	.0491	
LYNCHBURG						
SITE 001	75	.0883	.0635	LD	.0487	.0735
LYNCHBURG						
SITE 002	75	LD	LD	.1030	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12105 - BERYLLIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
RF

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .00006
95 PERCENT CONFIDENCE LIMITS
BIAS (P) 16 PRECISION (P) +- 62

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 001	75	LD	LD	LD	LD	
RICHMOND						
SITE 002	75	.0726	LD	.0693	LD	
ROANOKE						
SITE 003	75	LD	LD	LD	LD	
WASHINGTON						
SEATTLE						
SITE 001	75	LD	LD	LD	LD	
SPOKANE						
SITE 001	75	LD	LD	LD	LD	
TACOMA						
SITE 001	75	LD	LD	LD	LD	
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	.1051	.1247	.2188	.1700	.1599
HUNTINGTON						
SITE 005	75	.0942	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.1837	.0943	.1720	.1916	.1409
WISCONSIN						
EAU CLAIRE						
SITE 002	75	LD	.0698	LD	LD	
KENOSHA						
SITE 001	75	LD	LD	LD	LD	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	LD	.0773	LD	LD	
MILWAUKEE						
SITE 001	75	.0725	LD	LD	LD	
MILWAUKEE						
SITE 099	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0682	LD	LD	LD	
SUPERIOR						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
CASPER						
SITE 001	75	LD	LD	LD	LD	
CHEYENNE						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST CROIX						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12105 - BERYLLIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
RE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD): .00008
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 1A PRECISION (P) +- 42

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PT						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 005	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PARK						
SITE 002	75	LD	LD	LD	LD	
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	LD	
FLORIDA						
HARDEE CO						
SITE 001	75	LD	LD	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	LD	LD	LD	LD	
HAWAII VOLCANOES NP						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	.0036	LD	LD	LD	
INDIANA						
MONROE CO						
SITE 001	75	LD	LD	.1143	LD	
PARKE CO						
SITE 001	75	LD	LD	LD	LD	
SHERVILLE PAR						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	LD	LD	LD	LD	
MARYLAND						
CALVERT CO						
SITE 001	75	LD	LD	LD	LD	
MISSISSIPPI						
JACKSON CO						
SITE 001	75	LD	LD	LD	LD	
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	LD	LD	LD	LD	
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	LD	LD	
FORT HOWES						
SITE 00A	75	LD	LD	LD	LD	
ASHLAND						
SITE 026	75	LD	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	LD	.1559	.2223	LD	
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	LD	LD	LD	LD	
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	.0023	LD	.0212	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	.0010	LD	.1112	.1068	.1035
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	LD	LD	.1304	.1398	
OREGON						
CURRY CO						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.0203	LD	LD	LD	
INDIANA CO						
SITE 002	75	.1552	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	LD	LD	LD	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	LD	LD	LD	LD	
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	LD	LD	LD	LD	
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
MATAGORDA CO						
SITE 001	75	LD	LD	LD	LD	
TOM GREEN CO						
SITE 001	75	LD	LD	LD	LD	
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	LD	LD	LD	LD	
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	LD	LD	LD	LD	
WYTHE CO						
SITE 001	75	.0719	LD	LD	LD	
WASHINGTON						
KING CO						
SITE 002	75	LD	LD	LD	LD	

POLLUTANT : 12105 - BERYLLIUM
METHOD : HI-VOL EMISSION SPECTRA PURPLE FURNACE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
RF

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .00005
95 PERCENT CONFIDENCE LIMITS
BIAS (R) 1A PRECISION (R) .. 47

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
0004 EC						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PAR						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PAR						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	LD	LD	LD	
ST CROIX						
SITE 004	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12110 - CADMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CD

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0064
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 9 PRECISION (%) +- 46

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	LD	LD	LD	LD	
GADSDEN						
SITE 001	75	LD	LD	LD	LD	
HUNTSVILLE						
SITE 001	75	LD	LD	LD	LD	
MOBILE						
SITE 001	75	.0078	LD	LD	LD	
MONTGOMERY						
SITE 001	75	LD	LD	LD	LD	
ALASKA						
ANCHORAGE						
SITE 003	75	LD	LD	LD	LD	
FAIRBANKS						
SITE 001	75	LD	LD	LD	LD	
ARIZONA						
DOUGLAS						
SITE 004	75	.0093	.0078	LD	LD	
PHOENIX						
SITE 002	75	LD	.0430	LD	LD	
TUCSON						
SITE 001	75	.0101	.0184	.0115	LD	.0133
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	LD	LD	LD	.0082	
TEXARKANA						
SITE 001	75	.0127	LD	LD	LD	
WEST MEMPHIS						
SITE 001	75	.0108	LD	LD	LD	
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	LD	LD	LD	.0119	
BERKELEY						
SITE 001	75	LD	LD	.0092	.0096	
BURBANK						
SITE 002	75	LD	LD	LD	LD	
FRESNO						
SITE 002	75	LD	LD	LD	LD	
GLENDALE						
SITE 001	75	LD	LD	LD	LD	
LONG BEACH						
SITE 001	75	LD	LD	LD	LD	
LOS ANGELES						
SITE 001	75	LD	LD	LD	LD	
OAKLAND						
SITE 001	75	LD	LD	LD	LD	
ONTARIO						
SITE 001	75	LD	LD	LD	LD	
PASADENA						
SITE 002	75	LD	LD	LD	LD	
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	LD	LD	LD	LD	
SAN BERNARDINO						
SITE 001	75	LD	.0112	LD	LD	
SAN DIEGO						
SITE 004	75	LD	LD	LD	LD	
SAN FRANCISCO						
SITE 001	75	LD	LD	.0073	LD	
CALIFORNIA						
SAN JOSE						
SITE 004	75	.0067	LD	.0112	LD	
SANTA ANA						
SITE 001	75	LD	.0142	LD	.0099	
TORRANCE						
SITE 001	75	.0117	.0112	LD	.0076	.0104
COLORADO						
DENVER						
SITE 001	75	LD	LD	.0074	LD	
DENVER						
SITE 002	75	.0155	LD	.0084	LD	
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	.0114	.0136	LD	.0119	.0124
HARTFORD						
SITE 002	75	LD	.0069	LD	LD	
NEW HAVEN						
SITE 001	75	LD	.0110	.0109	.0095	.0104
WATERBURY						
SITE 001	75	.1626	.0402	.0122	LD	.0717
WATERBURY						
SITE 123	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	LD	LD	LD	LD	
WILMINGTON						
SITE 002	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	LD	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	LD	LD	LD	LD	
MIAMI						
SITE 002	75	LD	LD	LD	LD	
ST PETERSBURG						
SITE 002	75	LD	LD	LD	LD	
TAMPA						
SITE 002	75	LD	LD	LD	LD	
GEORGIA						
ATLANTA						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	LD	LD	LD	LD	
SAVANNAH						
SITE 001	75	LD	LD	LD	LD	
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	LD	.0114	.0102	
EAST ST LOUIS						
SITE 001	75	LD	LD	.0113	.0250	
JOLIET						
SITE 001	75	LD	LD	LD	LD	
MOLINE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12110 - CADMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/LU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CD

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0004
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 9 PRECISION (%) +- 46

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	LD	LD	LD	.0068	
PEORIA						
SITE 001	75	LD	LD	.0090	.0085	
ROCKFORD						
SITE 001	75	.0102	.0081	LD	.0297	.0140
ROCK ISLAND						
SITE 001	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 001	75	LD	LD	LD	.0107	
INDIANA						
EAST CHICAGO						
SITE 001	75	.0131	.0109	LD	.0090	.0110
EVANSVILLE						
SITE 001	75	LD	LD	LD	LD	
FORT WAYNE						
SITE 002	75	LD	LD	LD	.0085	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	LD	LD	.0093	.0111	
HAMMOND						
SITE 002	75	.0069	.0058	LD	.0090	.0085
INDIANAPOLIS						
SITE 001	75	.0220	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	LD	.0120	LD	
NEW ALBANY						
SITE 002	75	LD	LD	LD	.0117	
SOUTH BEND						
SITE 002	75	LD	LD	LD	.0083	
TERRE HAUTE						
SITE 001	75	LD	LD	LD	.0101	
IOWA						
CEDAR RAPIDS						
SITE 018	75	LD	LD	LD	LD	
DAVENPORT						
SITE 001	75	.0259	LD	LD	LD	
DES MOINES						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	LD	LD	LD	LD	
DUBUQUE						
SITE 008	75	LD	LD	LD	LD	
WATERLOO						
SITE 004	75	LD	LD	LD	LD	
WATERLOO						
SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	LD	.0083	LD	LD	
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	LD	LD	LD	LD	
KENTUCKY						
ASHLAND						
SITE 002	75	.0066	LD	LD	LD	
BOWLING GREEN						
SITE 001	75	LD	LD	LD	LD	
COVINGTON						
SITE 001	75	LD	LD	LD	LD	
LEXINGTON						
SITE 001	75	LD	LD	LD	LD	
LOUISVILLE						
SITE 002	75	LD	LD	LD	LD	
LOUISIANA						
BATON ROUGE						
SITE 002	75	LD	LD	LD	LD	
IBERVILLE PAR						
SITE 002	75	LD	LD	LD	LD	
NEW ORLEANS						
SITE 002	75	LD	LD	LD	LD	
SHREVEPORT						
SITE 001	75	LD	LD	LD	LD	
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	LD	
MARYLAND						
BALTIMORE						
SITE 001	75	LD	LD	LD	LD	
MASSACHUSETTS						
BOSTON						
SITE 001	75	LD	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	LD	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	LD	
WORCESTER						
SITE 004	75	LD	LD	.0075	LD	
MICHIGAN						
DEARBORN						
SITE 001	75	.0106	LD	LD	.0084	
DETROIT						
SITE 001	75	LD	.0077	LD	.0073	
FLINT						
SITE 008	75	LD	LD	LD	LD	
GRAND RAPIDS						
SITE 001	75	LD	.0070	.0074	LD	
LANSING						
SITE 001	75	.0101	.0114	LD	LD	
SAGINAW						
SITE 001	75	LD	.0168	.0096	LD	
TRENTON						
SITE 004	75	LD	LD	LD	.0074	
MINNESOTA						
DULUTH						
SITE 001	75	.0076	LD	LD	LD	
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12910 - CADMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CD

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0064
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 9 PRECISION (%) +- 46

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 027	75	LD	LD	.0106	.0070	
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	LD	LD	.0096	LD	
MISSISSIPPI						
JACKSON						
SITE 002	75	LD	LD	LD	LD	
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	LD	LD	LD	
ST LOUIS						
SITE 061	75	.0074	LD	.0157	.0083	.0105
ST LOUIS						
SITE 072	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.0107	.0382	
NEBRASKA						
LINCOLN						
SITE 002	75	LD	LD	LD	LD	
OMAHA						
SITE 001	75	LD	LD	LD	LD	
OMAHA						
SITE 030	75	LD	LD	LD	LD	
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	LD	LD	LD	LD	
RENO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	LD	LD	LD	LD	
NEW JERSEY						
BAYONNE						
SITE 001	75	.0089	LD	.0065	.0103	.0078
CAMDEN						
SITE 001	75	LD	LD	.0101	LD	
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	LD	.0277	.0075	
ELIZABETH						
SITE 002	75	.0090	LD	.0126	.0112	.0109
GLASSBORO						
SITE 001	75	.0119	.0093	.0196	.0095	.0126
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0094	LD	.0105	.0067	.0089
NEWARK						
SITE 001	75	.0098	LD	.0071	.0098	.0086
PATERSON						
SITE 001	75	.0074	LD	.0072	LD	
PERTH AMBOY						
SITE 001	75	.0067	LD	.0137	.0100	.0101
TRENTON						
SITE 001	75	LD	LD	.0109	LD	
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	LD	LD	LD	LD	
BUFFALO						
SITE 001	75	LD	LD	LD	.0083	
NEW YORK CITY						
SITE 014	75	LD	.0115	.0080	.0078	.0091
NIAGARA FALLS						
SITE 001	75	LD	LD	LD	LD	
ROCHESTER						
SITE 001	75	LD	LD	LD	.0077	
SYRACUSE						
SITE 001	75	LD	LD	LD	LD	
UTICA						
SITE 001	75	LD	LD	LD	LD	
YONKERS						
SITE 001	75	LD	.0084	.0114	LD	
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	LD	LD	LD	LD	
DURHAM						
SITE 001	75	LD	LD	LD	LD	
DURHAM						
SITE 006	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	LD	LD	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	LD	
WINSTON-SALEM						
SITE 002	75	.0080	LD	LD	LD	
NORTH DAKOTA						
BISMARCK						
SITE 001	75	LD	LD	LD	LD	
OHIO						
AKRON						
SITE 014	75	LD	LD	LD	LD	
CANTON						
SITE 001	75	LD	LD	.0082	LD	
CINCINNATI						
SITE 001	75	LD	LD	LD	.0067	
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.0076	LD	.0067	.0146	.0096
DAYTON						
SITE 001	75	LD	LD	LD	.0116	
IRONTON						
SITE 006	75	LD	LD	LD	LD	
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	LD	LD	LD	LD	
STEUBENVILLE						
SITE 012	75	LD	LD	.0122	LD	
TOLEDO						
SITE 001	75	LD	LD	LD	LD	
YOUNGSTOWN						
SITE 001	75	LD	.0076	LD	LD	
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	.0165	LD	LD	LD	
TULSA						
SITE 110	75	LD	.0135	LD	LD	
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12110 - CADMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CD

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0064
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 9 PRECISION (%) +- 46

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.0096	.0067	.0186	.0061	.0108
ALTOONA						
SITE 001	7	LD	LD	LD	LD	
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	LD	LD	.0140	
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 361	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.0067	LD	LD	.0200	
JOHNSTOWN						
SITE 903	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	LD	
PHILADELPHIA						
SITE 004	75	LD	.0084	LD	LD	
PITTSBURGH						
SITE 001	75	.0102	.0067	LD	.0094	.0088
READING						
SITE 001	75	LD	.0098	LD	LD	
SCRANTON						
SITE 001	75	.0075	.0133	.0076	LD	.0095
WARMINSTER						
SITE 002	75	LD	LD	.0104	LD	
WEST CHESTER						
SITE 110	75	LD	LD	.0077	LD	
WILKES-BARRE						
SITE 001	75	LD	.0130	LD	LD	
YORK						
SITE 322	75	LD	LD	LD	LD	
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	LD	LD	LD	LD	
PONCE						
SITE 002	75	.0069	LD	LD	.0094	
SABANA SECA						
SITE 001	75	LD	LD	LD	.0091	
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	LD	LD	LD	.0095	
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0087	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.0083	LD	LD	.0075	
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.0095	.0161	LD	.0096	.0117
GREENVILLE						
SITE 001	75	LD	LD	LD	LD	
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	LD	LD	LD	LD	
KNOXVILLE						
SITE 002	75	LD	LD	LD	LD	
MEMPHIS						
SITE 001	75	LD	LD	LD	LD	
NASHVILLE						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	LD	LD	LD	LD	
BEAUMONT						
SITE 001	75	LD	LD	LD	LD	
CORPUS CHRISTI						
SITE 001	75	.0142	LD	.0114	LD	
DALLAS						
SITE 002	75	LD	LD	LD	LD	
EL PASO						
SITE 002	75	.0946	.0698	.0115	.0430	.0548
FORT WORTH						
SITE 001	75	LD	LD	LD	LD	
HOUSTON						
SITE 001	75	LD	LD	LD	LD	
LUBBOCK						
SITE 001	75	LD	LD	.0137	LD	
PASADENA						
SITE 002	75	LD	LD	LD	LD	
SAN ANTONIO						
SITE 034	75	LD	LD	LD	LD	
WICHITA FALLS						
SITE 002	75	LD	LD	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	LD	LD	.0089	
SALT LAKE CITY						
SITE 001	75	LD	LD	LD	LD	
VERMONT						
BURLINGTON						
SITE 003	75	LD	.0239	LD	LD	
VIRGINIA						
DANVILLE						
SITE 001	75	LD	LD	LD	LD	
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0066	LD	LD	LD	
LYNCHBURG						
SITE 001	75	LD	LD	LD	.0065	
LYNCHBURG						
SITE 002	75	LD	LD	LD	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 7c110 - CADMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CD

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0004
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 0 PRECISION (%) +- 46

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 001	75	LD	LD	LD	LD	
RICHMOND						
SITE 002	75	LD	LD	LD	LD	
ROANOKE						
SITE 007	75	LD	LD	LD	LD	
WASHINGTON						
SEATTLE						
SITE 001	75	LD	LD	LD	LD	
SPOKANE						
SITE 001	75	LD	LD	LD	LD	
TACOMA						
SITE 001	75	LD	LD	LD	LD	
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
HUNTINGTON						
SITE 005	75	.0217	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.0077	LD	LD	LD	
WISCONSIN						
EAU CLAIRE						
SITE 002	75	LD	LD	LD	LD	
KENOSHA						
SITE 001	75	LD	LD	.0132	.0158	
KENOSHA						
SITE 007	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	LD	LD	LD	LD	
MILWAUKEE						
SITE 001	75	LD	LD	.0113	.0076	
MILWAUKEE						
SITE 099	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	LD	LD	LD	LD	
SUPERIOR						
SITE 001	75	.0083	LD	LD	LD	
WYOMING						
CASPER						
SITE 001	75	LD	LD	LD	LD	
CHEYENNE						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12110 - CADMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
CD

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD): .0044
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 0 PRECISION (P) +- 44

LOCATION	YR. AVG.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.
ARIZONA					
GRAND CANYON NAT P					
SITE 001	75	LD	LD	LD	LD
MARICOPA CO					
SITE 005	75	LD	LD	LD	LD
ARKANSAS					
MONTGOMERY CO					
SITE 001	75	LD	LD	LD	LD
CALIFORNIA					
HUMBOLDT CO					
SITE 001	75	LD	LD	LD	LD
COLORADO					
MESA VERDE NAT PAR					
SITE 002	75	LD	LD	LD	LD
DELAWARE					
KENT CO					
SITE 001	75	LD	LD	LD	LD
DISTRICT OF COLUMBIA					
WASHINGTON					
SITE 003	75	LD	LD	LD	LD
FLORIDA					
HARDEE CO					
SITE 001	75	LD	LD	.0194	LD
HIGHLANDS CO.					
SITE 002	75	LD	LD	LD	LD
HAWAII					
HAWAII CO					
SITE 001	75	LD	LD	LD	LD
HAWAII CO					
SITE 002	75	LD	LD	LD	LD
HAWAII VOLCANOES NA					
SITE 001	75	LD	LD	LD	LD
IDAHO					
BUTTE CO					
SITE 001	75	LD	LD	LD	LD
ILLINOIS					
CHICAGO					
SITE 002	75	LD	LD	LD	LD
INDIANA					
MONROE CO					
SITE 001	75	LD	LD	LD	.0044
PARKE CO					
SITE 001	75	LD	LD	LD	LD
JEFFERVILLE PAR					
LOUISIANA					
SITE 001	75	LD	LD	LD	LD
MAINE					
ACADIA NAT PARK					
SITE 001	75	.0065	LD	LD	LD
MARYLAND					
CALVERT CO					
SITE 001	75	LD	LD	LD	LD
MISSISSIPPI					
JACKSON CO					
SITE 001	75	LD	LD	LD	LD
MISSOURI					
ST LOUIS					
SITE 003	75	LD	LD	LD	LD
SHANNON CO					
SITE 002	75	LD	LD	LD	LD
MONTANA					
GLACIER NAT PARK					
SITE 001	75	LD	LD	LD	LD
FORT HOWES					
SITE 004	75	LD	LD	LD	LD
ASHLAND					
SITE 004	75	LD	LD	LD	LD
NEBRASKA					
THOMAS CO					
SITE 001	75	LD	LD	LD	LD

LOCATION	YR. AVG.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.
NEVADA					
WHITE PINE CO					
SITE 001	75	LD	LD	LD	LD
NEW HAMPSHIRE					
COOS CO					
SITE 001	75	LD	LD	LD	LD
NEW MEXICO					
RIO ARRIBA CO					
SITE 001	75	LD	LD	LD	LD
NEW YORK					
JEFFERSON CO					
SITE 001	75	LD	LD	LD	LD
NORTH CAROLINA					
CAPE HATTERAS NAT					
SITE 001	75	LD	LD	LD	LD
DUXTON					
SITE 002	75	LD	LD	LD	LD
OHIO					
CINCINNATI					
SITE 003	75	.0083	LD	LD	LD
OKLAHOMA					
OKLAHOMA CITY					
SITE 001	75	LD	LD	LD	LD
OKLAHOMA CITY					
SITE 015	75	LD	LD	LD	LD
OKLAHOMA CITY					
SITE 015	75	LD	LD	LD	.0198
OREGON					
CURRY CO					
SITE 001	75	LD	LD	LD	LD
PENNSYLVANIA					
CLARION CO					
SITE 001	75	LD	LD	LD	LD
INDIANA CO					
SITE 002	75	LD	LD	LD	LD
PHILADELPHIA					
SITE 002	75	.0045	LD	LD	LD
RHODE ISLAND					
WASHINGTON CO					
SITE 002	75	LD	LD	LD	LD
SOUTH CAROLINA					
RICHLAND CO					
SITE 002	75	LD	LD	LD	LD
SOUTH DAKOTA					
BLACK HILLS NAT FO					
SITE 001	75	LD	LD	LD	LD
TENNESSEE					
CUMBERLAND CO					
SITE 001	75	LD	LD	LD	LD
TEXAS					
MATAGORDA CO					
SITE 001	74	LD	LD	LD	LD
TOM GREEN CO					
SITE 001	75	LD	LD	LD	LD
UTAH					
EMERY COUNTY					
SITE 003	75	LD	LD	LD	LD
VERMONT					
ORANGE CO					
SITE 001	75	LD	LD	LD	LD
VIRGINIA					
SHENANDOAH NAT PAR					
SITE 001	75	LD	LD	LD	LD
WYTHE CO					
SITE 001	75	LD	LD	LD	LD
WASHINGTON					
KING CO					
SITE 002	75	LD	LD	LD	LD

POLLUTANT : 12110 = CADMIUM
METHOD : HI-VOL FMISSION SPECTRO MUFFLE FURNACE NON-URBAN
UNITS : UG/CU METER (25 C) CO
DATA TYPE : QUARTERLY COMPOSITE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0044
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 0 PRECISION (%) +- 86

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
DOOR CO						
SITE 001	26	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PAR						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PAR						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	LD	LD	LD	
ST CROIX						
SITE 004	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12112 - CHROMIUM
METHOD : HI-VOL EMISSION SPECTRA NUCLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0027
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	.0050	.0056	.0077	LD	.0041
GADSDEN						
SITE 001	75	.0043	.0045	.0058	LD	.0049
HUNTSVILLE						
SITE 001	75	.0040	LD	.0045	.0052	.0045
MOBILE						
SITE 001	75	.0051	.0048	LD	.0043	.0054
MONTGOMERY						
SITE 001	75	LD	.0044	.0032	.0070	.0049
ALASKA						
ANCHORAGE						
SITE 003	75	LD	.0070	.0058	.0041	.0063
FAIRBANKS						
SITE 001	75	.0046	LD	LD	.0033	
ARIZONA						
DOUGLAS						
SITE 004	75	.0045	.0035	LD	LD	
PHOENIX						
SITE 002	75	.0080	.0058	LD	.0095	.0081
TUCSON						
SITE 001	75	.0043	.0035	.0041	.0044	.0044
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	.0033	.0056	.0068	.0046	.0050
TEXARKANA						
SITE 001	75	.0105	.0080	LD	.0070	.0085
WEST MEMPHIS						
SITE 001	75	.0095	.0058	.0052	LD	.0068
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	.0056	.0041	.0055	.0045	.0049
BERKELEY						
SITE 001	75	.0071	LD	.0043	.0076	.0070
BURBANK						
SITE 002	75	.0110	.0051	.0078	.0120	.0090
FRESNO						
SITE 002	75	.0073	.0033	.0082	.0070	.0065
GLENDALE						
SITE 001	75	LD	LD	.0058	.0077	
LONG BEACH						
SITE 001	75	.0096	.0058	.0078	.0083	.0079
LOS ANGELES						
SITE 001	75	LD	.0082	.0070	.0121	.0091
OAKLAND						
SITE 001	75	.0047	.0097	.0071	.0133	.0080
ONTARIO						
SITE 001	75	.0109	LD	LD	LD	
PASADENA						
SITE 002	75	.0094	.0063	.0083	.0088	.0077
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	.0085	LD	.0070	.0054	.0054
SAN BERNARDINO						
SITE 001	75	.0100	.0121	.0123	.0090	.0109
SAN DIEGO						
SITE 004	75	.0074	.0041	.0078	.0049	.0043
SAN FRANCISCO						
SITE 001	75	.0045	LD	.0032	.0054	.0050

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	.0101	.0072	.0083	.0101	.0089
SANTA ANA						
SITE 001	75	.0047	.0058	.0044	.0148	.0073
TORRANCE						
SITE 001	75	.0124	.0057	.0083	.0168	.0108
COLORADO						
DENVER						
SITE 001	75	LD	.0042	.0088	LD	
DENVER						
SITE 002	75	.0138	.0090	.0058	.0118	.0099
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	.0144	.0150	.0041	.0066	.0100
HARTFORD						
SITE 002	75	.0056	.0080	.0057	.0072	.0066
NEW HAVEN						
SITE 001	75	.0102	.0066	.0062	.0088	.0079
WATERBURY						
SITE 001	75	.0149	.0149	.0084	.0106	.0132
WATERBURY						
SITE 103	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.0056	.0032	.0052	.0088	.0047
WILMINGTON						
SITE 002	75	.0076	LD	.0087	.0085	.0083
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	.0088	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.0085	.0054	.0043	.0084	.0067
MIAMI						
SITE 002	75	.0052	.0035	.0052	.0033	.0043
ST PETERSBURG						
SITE 002	75	.0060	.0047	LD	.0041	.0048
TAMPA						
SITE 002	75	LD	LD	.0043	LD	
GEORGIA						
ATLANTA						
SITE 001	75	.0032	.0070	.0052	.0037	.0048
COLUMBUS						
SITE 001	75	.0048	.0038	.0037	LD	.0041
SAVANNAH						
SITE 001	75	.0053	.0035	.0044	.0030	.0041
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.0043	LD	LD	LD	
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	.0048	.0080	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.0049	.0130	.0111	.0102
EAST ST LOUIS						
SITE 001	75	LD	LD	.0089	.0093	
JOLIET						
SITE 001	75	.0061	LD	.0095	.0044	.0067
MOLINE						
SITE 001	75	.0064	.0043	.0103	.0038	.0064

POLLUTANT : 12112 = CHROMIUM
METHOD : XRF-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MICRO METER CUBED (M3)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) = .0027
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 21 PRECISION (R) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
CHICAGO CHICAGO						
SITE 002	75	.0057	LD	.0059	LD	
PEORIA						
SITE 001	75	.0049	.0114	.0195	.0088	.0109
ROCKFORD						
SITE 001	75	.0041	.0038	LD	.0037	.0038
ROCK ISLAND						
SITE 001	75	.0050	.0052	.0068	.0076	.0061
SPRINGFIELD						
SITE 001	75	.0041	.0032	LD	.0053	.0042
INDIANA						
EAST CHICAGO						
SITE 001	75	.0280	.0911	LD	.0950	.0383
EVANSVILLE						
SITE 001	75	.0194	.0038	.0073	.0059	.0092
FORT WAYNE						
SITE 002	75	LD	.0079	LD	.0060	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.0945	LD	.0145	.0196	.0258
HAMMOND						
SITE 002	75	.0233	.0183	.0140	.0048	.0156
INDIANAPOLIS						
SITE 001	75	.0068	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.0194	.0042	LD	
NEW ALBANY						
SITE 003	75	LD	LD	.0093	.0060	
SOUTH BEND						
SITE 002	75	.0060	.0084	.0077	LD	.0084
TERRE HAUTE						
SITE 001	75	.0044	.0057	.0040	.0084	.0066
IOWA						
CEDAR RAPIDS						
SITE 010	75	.0047	.0074	.0074	.0051	.0049
DAVENPORT						
SITE 001	75	.0068	LD	.0045	.0052	.0050
DES MOINES						
SITE 001	75	.0028	.0038	.0042	.0054	.0041
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	LD	.0034	LD	LD	
DUBUQUE						
SITE 008	75	LD	LD	LD	.0038	
WATERLOO						
SITE 004	75	.0040	.0041	.0039	.0054	.0056
WATERLOO						
SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	.0048	LD	.0061	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.0133	.0117	.0115	.0104	.0118
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	.0036	.0033	.0036	.0045	.0038

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	.0029	LD	.0035	.0048	.0043
KENTUCKY						
ASHLAND						
SITE 002	75	.0112	.0047	.0042	.0052	.0048
BOWLING GREEN						
SITE 001	75	LD	LD	LD	LD	
COVINGTON						
SITE 001	75	.0061	.0033	.0044	LD	.0060
LEXINGTON						
SITE 001	75	.0034	.0065	LD	LD	
LOUISVILLE						
SITE 002	75	.0049	.0049	.0038	.0048	.0049
LOUISIANA						
BATON ROUGE						
SITE 002	75	LD	LD	.0048	.0034	
JEFFVILLE PAR						
SITE 002	75	.0043	LD	.0041	LD	
NEW ORLEANS						
SITE 002	75	.0034	LD	.0048	.0049	.0048
SHREVEPORT						
SITE 001	74	.0040	.0044	.0043	.0043	.0043
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.0048	
MARYLAND						
BALTIMORE						
SITE 001	75	.0709	.0442	.0183	.0400	.0439
MASSACHUSETTS						
BOSTON						
SITE 001	75	.0070	LD	LD	LD	
BOSTON						
SITE 012	74	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	74	.0044	LD	LD	LD	
FALL RIVER						
SITE 001	74	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	74	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	.0047	
WORCESTER						
SITE 004	75	LD	LD	.0054	.0057	
MICHIGAN						
DEARBORN						
SITE 001	75	.0165	LD	.0105	.0084	.0119
DETROIT						
SITE 001	75	.0134	.0079	.0041	.0091	.0084
FLINT						
SITE 008	75	.0074	LD	LD	.0034	
GRAND RAPIDS						
SITE 001	74	.0050	.0044	.0040	.0041	.0043
LANSING						
SITE 001	75	.0072	.0042	.0039	LD	.0042
SAGINAW						
SITE 001	75	.0038	.0042	.0044	.0043	.0040
TRENTON						
SITE 004	75	LD	LD	.0078	.0051	
MINNESOTA						
DULUTH						
SITE 001	75	.0044	LD	.0043	.0045	.0045
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12112 - CHROMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0027
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 027	75	.0050	.0030	.0049	.0052	.0051
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	.0048	LD	.0054	.0070	.0065
MISSISSIPPI						
JACKSON						
SITE 002	75	.0056	LD	.0047	.0050	.0052
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.0073	.0068	LD	
ST LOUIS						
SITE 001	75	.0115	.0103	.0049	.0077	.0091
ST LOUIS						
SITE 033	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.0047	.0318	
NEBRASKA						
LINCOLN						
SITE 002	75	.0056	.0059	.0050	.0041	.0050
OMAHA						
SITE 001	75	.0083	LD	LD	LD	
OMAHA						
SITE 030	75	LD	.0053	.0058	.0062	.0054
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	.0063	.0036	LD	.0045	.0048
RENO						
SITE 001	75	.0076	.0059	.0045	.0054	.0059
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.0083	LD	LD	.0039	
NEW JERSEY						
BAYONNE						
SITE 001	75	.0210	LD	.0114	.0190	.0177
CAMDEN						
SITE 001	75	.0107	.0218	.0124	.0146	.0154
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.0070	.0054	.0071	.0064
ELIZABETH						
SITE 002	75	.0092	.0112	.0054	.0100	.0090
GLASSBORO						
SITE 001	75	.0194	.0042	.0105	.0033	.0083
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0323	LD	.0418	.0304	.0415
NEWARK						
SITE 001	75	.0151	LD	.0119	.0194	.0137
PATERSON						
SITE 001	75	.0089	LD	.0054	LD	
PERTH AMBOY						
SITE 001	75	.0063	LD	.0107	.0093	.0088
TRENTON						
SITE 001	75	.0069	.0058	.0092	.0054	.0069
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.0057	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.0049	.0057	.0038	.0047	.0048
BUFFALO						
SITE 001	75	.0084	.0093	.0079	.0077	.0082
NEW YORK CITY						
SITE 019	75	.0091	.0131	.0108	.0087	.0109
NIAGARA FALLS						
SITE 001	75	.0175	.1729	.1283	.0101	.0822
ROCHESTER						
SITE 001	75	.0071	.0044	.0079	.0087	.0065
SYRACUSE						
SITE 001	75	.0090	LD	.0044	.0054	.0071
UTICA						
SITE 001	75	.0088	.0043	.0049	.0170	.0098
YONKERS						
SITE 001	75	.0058	.0159	.0125	.0114	.0115
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.0051	.0034	.0049	.0049	.0049
DURHAM						
SITE 001	75	LD	.0042	.0073	LD	
DURHAM						
SITE 004	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.0049	.0045	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	.0078	
WINSTON-SALEM						
SITE 002	75	.0037	.0029	.0032	.0042	.0035
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.0092	LD	LD	LD	
OHIO						
AKRON						
SITE 019	75	.0143	.0075	.0093	.0062	.0093
CANTON						
SITE 001	75	.0285	.0148	.0254	LD	.0210
CINCINNATI						
SITE 001	75	.0082	.0093	.0075	.0049	.0075
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.0075	.0110	.0090	.0062	.0084
DAYTON						
SITE 001	75	.0092	.0085	.0093	.0090	.0090
IRONTON						
SITE 009	75	.0078	.0049	.0082	.0088	.0065
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	.0061	.0057	.0060	LD	.0060
STEUBENVILLE						
SITE 012	75	LD	LD	.1181	.0190	
TOLEDO						
SITE 001	75	.0085	.0074	.0041	LD	.0079
YOUNGSTOWN						
SITE 001	75	.0085	.0109	.0161	.0107	.0109
OKLAHOMA						
CHEROKEE CO						
SITE 400	75	LD	LD	LD	LD	
TULSA						
SITE 110	75	.0091	.0051	LD	LD	
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12112 - CHROMIUM
METHOD : AT=VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MICRO METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0022
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.0088	LD	.0030	.0047	.0049
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.0052	.0040	.0031	.0048	.0048
GREENVILLE						
SITE 001	75	.0029	.0045	.0048	LD	.0039
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	.0048	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.0047	.0042	.0094	.0111	.0084
KNOXVILLE						
SITE 002	75	LD	.0032	.0051	.0098	.0059
MEMPHIS						
SITE 001	75	.0053	.0071	.0073	.0056	.0063
NASHVILLE						
SITE 001	75	.0045	.0075	.0057	LD	.0059
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	.0049	.0039	LD	LD	
BEAUMONT						
SITE 001	75	LD	LD	.0050	LD	
CORPUS CHRISTI						
SITE 001	75	.0154	LD	.0099	.0049	.0108
DALLAS						
SITE 002	75	.0099	.0129	.0124	.0118	.0117
EL PASO						
SITE 002	75	.0109	.0095	.0093	.0045	.0049
FORT WORTH						
SITE 001	75	.0059	.0080	.0049	.0050	.0060
HOUSTON						
SITE 001	75	.0090	.0141	.0144	.0111	.0122
LUBBOCK						
SITE 001	75	.0049	LD	LD	.0078	
PASADENA						
SITE 002	75	.0104	.0125	LD	.0171	.0134
SAN ANTONIO						
SITE 034	75	.0037	LD	LD	LD	
WICHITA FALLS						
SITE 002	75	.0043	.0044	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	.0033	.0056	.0078	.0064
SALT LAKE CITY						
SITE 001	75	.0078	.0042	.0050	.0138	.0077
VERMONT						
BURLINGTON						
SITE 003	75	.0048	LD	.0047	.0060	.0062
VIRGINIA						
DANVILLE						
SITE 001	75	.0088	.0042	LD	.0038	.0043
NORFOLK						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0043	.0045	.0056	.0049	.0053
LYNCHBURG						
SITE 001	75	.0053	.0059	LD	.0059	.0056
LYNCHBURG						
SITE 002	75	LD	LD	.0057	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0040	.0058	.0082	.0041	.0063
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	.0053	LD	.0080	.0040	.0064
PONCE						
SITE 002	75	LD	LD	.0046	.0054	
SERRANA SECA						
SITE 001	75	.0058	.0054	.0037	.0049	.0055
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	.0040	.0048	.0043	.0048	.0044
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0084	.0047	.0055	LD	.0062

POLLUTANT : 12112 - CHROMIUM
METHOD : HI-VOL EMISSION SPECTRO MUFFLE FURNACE
UNITS : MG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0027
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.0058	.0059	.0039	.0052
PORTSMOUTH						
SITE 001	75	.0067	LD	LD	.0054	
RICHMOND						
SITE 002	75	.0041	.0040	.0083	.0048	.0063
ROANOKE						
SITE 003	75	.0042	LD	.0042	LD	
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.0049	.0038	.0089	.0065
SPOKANE						
SITE 001	75	LD	.0039	.0058	.0043	.0046
TACOMA						
SITE 001	75	.0077	.0043	.0029	.0123	.0068
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	.0072	.0074	.0112	.0137	.0099
HUNTINGTON						
SITE 006	75	.0157	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.0062	.0053	.0073	.0194	.0079
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.0038	.0050	.0045	.0034	.0042
KENOSHA						
SITE 001	75	LD	LD	.0096	.0048	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.0070	.0059	LD	LD	
MILWAUKEE						
SITE 001	75	.0174	.0083	.0122	.0129	.0115
MILWAUKEE						
SITE 099	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0077	.0058	.0051	.0143	.0082
SUPERIOR						
SITE 001	75	.0044	.0079	LD	.0081	.0075
WYOMING						
CASPER						
SITE 001	75	.0037	.0050	.0037	.0048	.0043
CHEYENNE						
SITE 001	75	LD	.0042	.0052	LD	
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

POLLUTANT : 12112 - CHROMIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0027
95 PERCENT CONFIDENCE LIMITS
PIAS (B) 2) PRECISION (S) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PK						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 005	75	LD	LD	LD	LD*	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	LD	.0043*	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PAR						
SITE 002	75	LD	LD	LD	.0033*	
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.0025*	
FLORIDA						
HARDEE CO						
SITE 001	75	LD	LD	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	.0036*	LD	LD	LD	
HAWAII VOLCANOES NP						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
CHICAGO						
SITE 003	75	.0134*	.0077*	.0112*	LD	.0108*
INDIANA						
PORTER CO						
SITE 001	75	LD	.0090*	.0094*	.0036*	.0057*
PARKE CO						
SITE 001	75	LD	.0072*	LD	LD	
INDIANAPOLIS AP						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.0083*	.0084*	LD	.0038*	.0059*
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.0047*	LD	.0038*	
MISSISSIPPI						
JACKSON CO						
SITE 001	75	.0038*	.0094*	LD	.0034*	.0037*
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	.0038*	.0031*	.0054*	LD	.0039*
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	.0044*	LD	
FORT HOWES						
SITE 008	75	LD	LD	.0038*	LD	
ASHLAND						
SITE 02A	75	.0043*	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	.0038*	.0038*	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.0029*	.0107*	.0134*	.0054*	.0095*
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.0009*	.0042*	.0038*	LD	.0040*
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 001	75	.0034*	LD	.0035*	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	.0089*	.0051*	.0048*	.0041*	.0047*
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	.0073*	.0057*	.0084*	.0129*	.0089*
OREGON						
CURRY CO						
SITE 001	75	LD	.0044*	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.0038*	LD	LD	LD	
INDIANA CO						
SITE 002	75	.0100*	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	.0029*	LD	.0060*	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.0034*	LD	.0033*	.0047*	.0038*
SOUTH CAROLINA						
BICHLAND CO						
SITE 002	74	LD	LD	LD	.0037*	
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	.0032*	.0031*	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	LD	LD	.0029*	.0033*	
TEXAS						
MATAGORDA CO						
SITE 001	75	.0030*	LD	.0031*	.0029*	.0030*
TOM GREEN CO						
SITE 001	74	LD	.0050*	LD	LD	
UTAH						
EMERY COUNTY						
SITE 003	76	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.0028*	.0049*	.0054*	LD	.0048*
VIRGINIA						
SHENANDOAH NAT PARK						
SITE 001	74	LD	LD	LD	LD	
WAYNE CO						
SITE 001	75	.0068*	LD	.0029*	LD	
WASHINGTON						
KING CO						
SITE 002	75	.0031*	.0060*	.0084*	.0028*	.0043*

POLLUTANT : 12112 - CHROMIUM
METHOD : 41-VOL EMISSION SPECTRO MUFFLE FURNACE
UNITS : MICRO METER CUBE (C)
DATA TYP : QUARTERLY COMPOSITE

NON-URBAN
CR

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LDL) .0027
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (S) +- 57

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
DOOR CO						
SITE [illegible]	76	LD	LD	LD	LD	
WYOMING						
GRAND TE[illegible]AT PAT						
SITE	76	LD	LD	LD	LD	
YELLOWSTONE NAT PAT						
SITE 001	76	LD	.0056	LD	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	76	LD	.0040	.0033	LD	
ST CROIX						
SITE 004	76	LD	LD	LD	LD	

POLLUTANT : 12113 - COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0039
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 1% PRECISION (R) +- 7%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	LD	LD	LD	LD	
GADSDEN						
SITE 001	75	LD	.0053*	LD	LD	
HUNTSVILLE						
SITE 001	75	LD	LD	LD	LD	
MOBILE						
SITE 001	75	LD	LD	LD	LD	
MONTGOMERY						
SITE 001	75	LD	LD	LD	LD	
ALASKA						
ANCHORAGE						
SITE 003	75	LD	LD	LD	LD	
FAIRBANKS						
SITE 001	75	LD	LD	LD	LD	
ARIZONA						
DOUGLAS						
SITE 004	75	LD	LD	LD	LD	
PHOENIX						
SITE 002	75	LD	LD	LD	LD	
TUCSON						
SITE 001	75	LD	LD	LD	LD	
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	LD	LD	LD	LD	
TEXARKANA						
SITE 001	75	LD	LD	LD	LD	
WEST MEMPHIS						
SITE 001	75	LD	LD	LD	LD	
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	LD	LD	LD	LD	
BERKELEY						
SITE 001	75	LD	LD	LD	LD	
BURBANK						
SITE 002	75	LD	LD	LD	LD	
FRESNO						
SITE 002	75	LD	LD	LD	LD	
GLENDALE						
SITE 001	75	LD	LD	LD	LD	
LONG BEACH						
SITE 001	75	LD	LD	LD	LD	
LOS ANGELES						
SITE 001	75	LD	LD	LD	LD	
OAKLAND						
SITE 001	75	LD	LD	LD	LD	
ONTARIO						
SITE 001	75	LD	LD	LD	LD	
PASADENA						
SITE 002	75	.0045*	LD	LD	LD	
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	LD	LD	LD	LD	
SAN BERNARDINO						
SITE 001	75	LD	LD	LD	LD	
SAN DIEGO						
SITE 004	75	LD	LD	LD	LD	
SAN FRANCISCO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
SAN JOSE						
SITE 004	75	LD	LD	LD	LD	
SANTA ANA						
SITE 001	75	LD	LD	LD	LD	
TORRANCE						
SITE 001	75	LD	LD	LD	.0078*	
COLORADO						
DENVER						
SITE 001	75	LD	LD	LD	LD	
DENVER						
SITE 002	75	.0049*	.0055*	LD	LD	
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	LD	LD	LD	LD	
HARTFORD						
SITE 002	75	LD	LD	LD	LD	
NEW HAVEN						
SITE 001	75	.0066*	LD	LD	LD	
WATERBURY						
SITE 001	75	LD	LD	LD	LD	
WATERBURY						
SITE 101	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.0038*	.0105*	LD	LD	
WILMINGTON						
SITE 002	75	LD	LD	LD	.0068*	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	LD	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.0050*	LD	LD	LD	
MIAMI						
SITE 002	75	LD	LD	LD	LD	
ST PETERSBURG						
SITE 002	75	LD	LD	LD	LD	
TAMPA						
SITE 002	75	LD	LD	LD	LD	
GEORGIA						
ATLANTA						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	LD	LD	LD	LD	
SAVANNAH						
SITE 001	75	LD	LD	LD	LD	
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	LD	LD	.0059*	
EAST ST LOUIS						
SITE 001	75	LD	LD	LD	LD	
JOLIET						
SITE 001	75	LD	LD	LD	LD	
MOLINE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12113 - COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0039
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 14 PRECISION (P) +- 58

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	LD	LD	LD	LD	
PEORIA						
SITE 001	75	LD	LD	LD	.0095	
ROCKFORD						
SITE 001	75	LD	LD	LD	LD	
ROCK ISLAND						
SITE 001	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 001	75	LD	LD	LD	LD	
INDIANA						
EAST CHICAGO						
SITE 001	75	LD	LD	LD	.0081	
EVANSVILLE						
SITE 001	75	LD	LD	LD	.0087	
FORT WAYNE						
SITE 002	75	LD	LD	LD	LD	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	LD	LD	LD	LD	
HAMMOND						
SITE 002	75	LD	LD	LD	LD	
INDIANAPOLIS						
SITE 001	75	LD	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	LD	LD	LD	
NEW ALBANY						
SITE 002	75	LD	LD	LD	LD	
SOUTH BEND						
SITE 002	75	LD	LD	LD	LD	
TERRE HAUTE						
SITE 001	75	LD	LD	LD	LD	
IOWA						
CEDAR RAPIDS						
SITE 018	75	LD	LD	LD	LD	
DAVENPORT						
SITE 001	75	LD	LD	LD	LD	
DES MOINES						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	LD	LD	LD	LD	
DUBUQUE						
SITE 008	75	LD	LD	LD	LD	
WATERLOO						
SITE 004	75	LD	LD	LD	LD	
WATERLOO						
SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	LD	LD	LD	LD	
KENTUCKY						
ASHLAND						
SITE 002	75	LD	LD	LD	LD	
BOWLING GREEN						
SITE 001	75	LD	LD	LD	LD	
COVINGTON						
SITE 001	75	LD	LD	LD	LD	
LEXINGTON						
SITE 001	75	LD	LD	LD	LD	
LOUISVILLE						
SITE 002	75	LD	LD	LD	LD	
LOUISIANA						
BATON ROUGE						
SITE 002	75	LD	LD	LD	LD	
JEFFVILLE PAR						
SITE 002	75	LD	LD	LD	LD	
NEW ORLEANS						
SITE 002	75	LD	LD	LD	LD	
SHREVEPORT						
SITE 001	75	LD	LD	LD	LD	
MAINE						
PORTLAND						
SITE 008	75	LD	LD	LD	LD	
MARYLAND						
BALTIMORE						
SITE 001	75	LD	LD	LD	LD	
MASSACHUSETTS						
BOSTON						
SITE 001	75	LD	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	LD	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	LD	
WORCESTER						
SITE 008	75	LD	LD	LD	LD	
MICHIGAN						
DEARBORN						
SITE 001	75	LD	LD	LD	LD	
DETROIT						
SITE 001	75	LD	LD	LD	LD	
FLINT						
SITE 008	75	LD	LD	LD	LD	
GRAND RAPIDS						
SITE 001	75	LD	LD	LD	LD	
LANSING						
SITE 001	75	LD	LD	LD	LD	
SAGINAW						
SITE 001	75	LD	LD	LD	LD	
TRENTON						
SITE 004	75	LD	LD	LD	LD	
MINNESOTA						
DULUTH						
SITE 001	75	LD	LD	LD	LD	
MINNEAPOLIS						
SITE 001	76	LD	LD	LD	LD	

POLLUTANT : 12113 = COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

UPRAP
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0039
95 PERCENT CONFIDENCE LIMITS
BIAS (P) 1% PRECISION (S) +- 0%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 027	75	LD	LD	LD	LD	
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	LD	LD	LD	LD	
MISSISSIPPI						
JACKSON						
SITE 002	75	LD	LD	LD	LD	
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	LD	LD	LD	
ST LOUIS						
SITE 001	75	LD	.0044?	LD	LD	
ST LOUIS						
SITE 027	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	LD	.0046?	
NEBRASKA						
LINCOLN						
SITE 002	75	LD	LD	LD	LD	
OMAHA						
SITE 001	75	LD	LD	LD	LD	
OMAHA						
SITE 030	75	LD	LD	LD	LD	
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	LD	LD	LD	LD	
RENO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	LD	LD	LD	LD	
NEW JERSEY						
BAYONNE						
SITE 001	75	LD	LD	LD	LD	
CAMDEN						
SITE 001	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	LD	LD	LD	
ELIZABETH						
SITE 002	75	LD	LD	LD	LD	
GLASSBORO						
SITE 001	75	LD	LD	LD	LD	
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	LD	LD	LD	LD	
NEWARK						
SITE 001	75	LD	LD	LD	LD	
PATERSON						
SITE 001	75	LD	LD	LD	LD	
PERTH AMBOY						
SITE 001	75	LD	LD	LD	.0042?	LD
TRENTON						
SITE 001	75	LD	LD	.0093?	.0044?	
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	LD	LD	LD	.0053?	
BUFFALO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK CITY						
SITE 019	75	LD	LD	.0048?	.0085?	
NIAGARA FALLS						
SITE 001	75	LD	LD	LD	.0083?	
ROCHESTER						
SITE 001	75	LD	LD	LD	LD	
SYRACUSE						
SITE 001	75	LD	LD	LD	LD	
UTICA						
SITE 001	75	LD	LD	.0054?	LD	
YONKERS						
SITE 001	75	LD	LD	.0054?	LD	
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	LD	LD	LD	LD	
DURHAM						
SITE 001	75	LD	LD	LD	LD	
DURHAM						
SITE 004	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	LD	LD	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	LD	
WINSTON-SALEM						
SITE 002	75	LD	LD	LD	LD	
NORTH DAKOTA						
BISMARCK						
SITE 001	75	LD	LD	LD	LD	
OHIO						
AKRON						
SITE 019	75	LD	LD	LD	LD	
CANTON						
SITE 001	75	LD	LD	LD	LD	
CINCINNATI						
SITE 001	75	LD	LD	LD	LD	
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	LD	LD	LD	LD	
DAYTON						
SITE 001	75	LD	LD	LD	LD	
IRONTON						
SITE 009	75	LD	LD	LD	.0130?	
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	LD	LD	LD	LD	
STEUBENVILLE						
SITE 012	75	LD	LD	LD	.0049?	LD
TOLEDO						
SITE 001	75	LD	LD	LD	LD	
YOUNGSTOWN						
SITE 001	75	LD	LD	LD	LD	
OKLAHOMA						
CHEROKEE CO						
SITE 400	75	LD	LD	LD	LD	
TULSA						
SITE 110	75	LD	LD	LD	LD	
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12113 - COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0039
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 14 PRECISION (%) +- 28

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	LD	LD	LD	LD	
ALTOONA						
SITE 001	75	LD	LD	LD	LD	
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	LD	LD	LD	
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 361	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	LD	LD	LD	LD	
JOHNSTOWN						
SITE 003	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	LD	
PHILADELPHIA						
SITE 004	75	LD	LD	LD	LD	
PITTSBURGH						
SITE 001	75	LD	LD	LD	LD	
READING						
SITE 001	75	LD	LD	LD	LD	
SCRANTON						
SITE 001	75	LD	LD	LD	LD	
WARMINSTER						
SITE 002	75	LD	LD	LD	LD	
WEST CHESTER						
SITE 110	75	LD	LD	LD	LD	
WILKES-BARRE						
SITE 001	75	LD	LD	LD	.0042	
YORK						
SITE 322	75	LD	LD	LD	LD	
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0042	.0057	.0053	LD	.0051
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	LD	LD	LD	LD	
PONCE						
SITE 002	75	LD	LD	LD	LD	
SERRANA SECA						
SITE 001	75	.0049	LD	LD	LD	
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	LD	LD	LD	LD	
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	LD	LD	LD	LD	
GREENVILLE						
SITE 001	75	LD	LD	LD	LD	
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	LD	LD	LD	LD	
KNOXVILLE						
SITE 002	75	LD	LD	LD	LD	
MEMPHIS						
SITE 001	75	LD	LD	LD	LD	
NASHVILLE						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	LD	LD	LD	LD	
BEAUMONT						
SITE 001	75	LD	LD	LD	LD	
CORPUS CHRISTI						
SITE 001	75	LD	LD	LD	LD	
DALLAS						
SITE 002	75	LD	LD	LD	LD	
EL PASO						
SITE 002	75	LD	LD	LD	LD	
FORT WORTH						
SITE 001	75	LD	LD	LD	.0071	
HOUSTON						
SITE 001	75	LD	LD	LD	LD	
LUBBOCK						
SITE 001	75	LD	LD	LD	LD	
PASADENA						
SITE 002	75	LD	LD	LD	LD	
SAN ANTONIO						
SITE 004	75	LD	LD	LD	LD	
WICHITA FALLS						
SITE 002	75	LD	LD	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	LD	LD	LD	
SALT LAKE CITY						
SITE 001	75	LD	LD	LD	LD	
VERMONT						
BURLINGTON						
SITE 003	75	LD	.0109	LD	LD	
VIRGINIA						
DANVILLE						
SITE 001	75	LD	LD	LD	LD	
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	LD	LD	LD	LD	
LYNCHBURG						
SITE 001	75	LD	LD	LD	LD	
LYNCHBURG						
SITE 002	75	LD	LD	LD	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12113 - COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0030
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 14 PRECISION (R) .. 50

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 001	75	LD	LD	LD	LD	
RICHMOND						
SITE 002	75	LD	.0099	LD	LD	
ROANOKE						
SITE 003	75	LD	LD	LD	LD	
WASHINGTON						
SEATTLE						
SITE 001	75	LD	LD	LD	LD	
SPOKANE						
SITE 001	75	LD	LD	LD	LD	
TACOMA						
SITE 001	75	LD	LD	LD	LD	
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
HUNTINGTON						
SITE 005	75	LD	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
WISCONSIN						
EAU CLAIRE						
SITE 002	75	LD	LD	.0061	LD	
KENOSHA						
SITE 001	75	LD	LD	.0070	.0042	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	LD	LD	LD	LD	
MILWAUKEE						
SITE 001	75	LD	LD	LD	LD	
MILWAUKEE						
SITE 009	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	LD	LD	LD	LD	
SUPERIOR						
SITE 001	75	LD	.0044	LD	LD	
WYOMING						
CASPER						
SITE 001	75	LD	LD	LD	LD	
CHEYENNE						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST CROIX						
SITE 00A	75	LD	LD	LD	LD	

POLLUTANT : 12113 - COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0039
95 PERCENT CONFIDENCE LIMITS
BIAS (P) 19 PRECISION (P) +- 58

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PI						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 006	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PARK						
SITE 002	75	LD	LD	LD	LD	
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	LD	
FLORIDA						
HARDEE CO						
SITE 001	75	LD	LD	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	LD	LD	LD	LD	
HAWAII VOLCANOES NP						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	.0043	LD	LD	LD	
INDIANA						
MONROE CO						
SITE 001	75	LD	LD	LD	LD	
PARKE CO						
SITE 001	75	LD	LD	LD	LD	
JEFFERSONVILLE IN						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	LD	LD	LD	LD	
MARYLAND						
CALVERT CO						
SITE 001	75	LD	LD	LD	LD	
MISSISSIPPI						
JACKSON CO						
SITE 001	75	LD	LD	.0043	LD	
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	LD	LD	LD	LD	
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	LD	LD	
FORT HOWES						
SITE 008	75	LD	LD	LD	LD	
ASHLAND						
SITE 026	75	LD	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	LD	LD	.0051	LD	
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	LD	LD	LD	LD	
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
HYDE						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	LD	LD	LD	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OREGON						
CURRY CO						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	LD	LD	LD	LD	
INDIANA CO						
SITE 002	75	LD	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	LD	LD	LD	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	LD	LD	LD	LD	
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	LD	LD	LD	LD	
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
MATAGORDA CO						
SITE 001	75	LD	LD	LD	LD	
TOM GREEN CO						
SITE 001	75	LD	LD	LD	LD	
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	LD	LD	LD	LD	
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	LD	LD	LD	LD	
WYTHE CO						
SITE 001	75	LD	LD	LD	LD	
WASHINGTON						
KING CO						
SITE 002	75	LD	LD	LD	LD	

POLLUTANT : 12113 - COBALT
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : US/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
CO

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0039
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 19 PRECISION (R) +- 58

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
BROWN CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PA						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PA						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	LD	LD	LD	
ST CROIX						
SITE 004	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12119 - COPPER
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CU

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0052
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 28 PRECISION (P) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	.1892	.1910	.1794	LD	.2483
FAIRFIELD						
SITE 001	75	.1913	.2032	.3088	LD	.2319
HUNTSVILLE						
SITE 001	75	.2068	LD	.4348	.2271	.2894
MOBILE						
SITE 001	75	.1902	.3551	LD	.2088	.2514
MONTGOMERY						
SITE 001	75	.1256	.1353	.2015	.1805	.1630
ALASKA						
ANCHORAGE						
SITE 003	75	LD	.2052	.5468	.4038	.3988
FAIRBANKS						
SITE 001	75	.9433	LD	LD	.1529	
ARIZONA						
DOUGLAS						
SITE 004	75	.7648	.3886	.9325	.8121	.6495
PHOENIX						
SITE 002	75	.1276	.1312	LD	.1140	.1292
TUCSON						
SITE 001	75	.2838	.2629	.3084	.2929	.2844
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	.2454	.4685	.9484	.3699	.5123
TEXARKANA						
SITE 001	75	.0638	.0551	LD	.0948	.0548
WEST MEMPHIS						
SITE 001	75	.1604	.2320	.2467	LD	.2129
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	.0673	.0906	.1542	.0749	.0972
BERKELEY						
SITE 001	75	.0614	.0536	.1009	.0683	.0711
BURBANK						
SITE 002	75	.2802	.5026	.3826	.2213	.3467
FRESNO						
SITE 002	75	.1319	.0319	.0553	.1304	.0875
GLENDALE						
SITE 001	75	LD	LD	.3349	.2920	
LONG BEACH						
SITE 001	75	.1470	.1942	.1093	.0642	.1292
LOS ANGELES						
SITE 001	75	LD	.0949	.0844	.0677	.0824
OAKLAND						
SITE 001	75	.1064	.1501	.1768	.1230	.1384
ONTARIO						
SITE 001	75	.1748	LD	LD	LD	
PASADENA						
SITE 002	75	.5893	.9996	1.4578	.7340	.9952
RIVERSIDE						
SITE 001	76	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	.3102	.2137	.2948	.5023	.3178
SAN BERNARDINO						
SITE 001	75	.2264	.3498	.4841	.3780	.3614
SAN DIEGO						
SITE 004	75	.5241	.5906	.5233	.2171	.4498
SAN FRANCISCO						
SITE 001	75	.0458	.0459	.0470	.0487	.0568

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	.1212	.0917	.0849	.0949	.0940
SANTA ANA						
SITE 001	75	.5942	.0677	.0889	.1693	.2165
TORRANCE						
SITE 001	75	.2185	.6569	.3541	.3408	.3930
COLORADO						
DENVER						
SITE 001	75	LD	.1742	.4219	LD	
DENVER						
SITE 002	75	.2630	.1963	.9218	.1268	.1969
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	.2421	.2042	.3084	.1385	.2319
HARTFORD						
SITE 002	75	.1472	.3493	.2628	.1072	.2166
NEW HAVEN						
SITE 001	75	.0718	.0629	.0594	.1012	.0721
WATERBURY						
SITE 001	75	.0924	.1308	.0857	.1119	.1051
WATERBURY						
SITE 103	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.2383	.2902	.3172	.1748	.2548
WILMINGTON						
SITE 002	75	.1252	LD	.5113	.2619	.2892
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	.3186	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.7385	.2519	.6908	.0999	.0006
MIAMI						
SITE 002	75	.2232	.1912	.1585	.1392	.1635
ST PETERSBURG						
SITE 002	75	.0703	.1835	.2097	.3695	.2045
TAMPA						
SITE 002	75	LD	LD	.3112	LD	
GEORGIA						
ATLANTA						
SITE 001	75	.0698	.1835	.3584	.2975	.2095
COLUMBUS						
SITE 001	75	.1414	.4902	.2969	.1467	.2661
SAVANNAH						
SITE 001	75	.2946	.2749	.4201	.5142	.4965
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.1414	.0802	.1108	.1657	.1170
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	.4145	.5099	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.1963	.4861	.2434	.2783
EAST ST LOUIS						
SITE 001	75	LD	LD	.4899	.5985	
JOLIET						
SITE 001	75	.0819	LD	.1985	.2038	.1645
MOLINE						
SITE 001	75	.1449	.1534	.1927	.1208	.1915

POLLUTANT : 12114 - COPPER
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CU

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0057
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 20 PRECISION (R) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	.1687	LD	.2699	.2372	.2219
PEORIA						
SITE 001	75	.1598	.1073	.1265	.1326	.1316
ROCKFORD						
SITE 001	75	.1043	.1109	LD	.3248	.1807
ROCK ISLAND						
SITE 001	75	.0736	.1254	.1999	.1319	.1327
SPRINGFIELD						
SITE 001	75	.0362	.0992	LD	.1908	.1072
INDIANA						
EAST CHICAGO						
SITE 001	75	.2777	.3573	LD	.5148	.3839
EVANSVILLE						
SITE 001	75	.1694	.2196	.4922	.2969	.2820
FORT WAYNE						
SITE 002	75	LD	.4931	LD	.4979	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.2699	LD	.3151	.2324	.2691
HAMMOND						
SITE 002	75	.2581	.3976	.2579	.1951	.2772
INDIANAPOLIS						
SITE 001	75	.3500	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.1131	.1610	LD	
NEW ALBANY						
SITE 002	75	LD	LD	.0212	.9742	
SOUTH BEND						
SITE 002	75	.1332	.2930	.9093	.2846	.2675
TERRE HAUTE						
SITE 001	75	.2143	.1786	.3799	.1207	.3234
IOWA						
CEDAR RAPIDS						
SITE 018	75	.0471	.0786	.0759	.0903	.0605
DAVENPORT						
SITE 001	75	.2077	LD	.4967	.3139	.3228
DES MOINES						
SITE 001	75	.2201	.3126	.1621	.1645	.2673
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	.0767	.0917	.1393	.0946	.1006
DUBUQUE						
SITE 004	75	.0411	.0906	.1579	.0985	.1020
WATERLOO						
SITE 004	75	.1039	.1991	.1738	.1612	.1458
WATERLOO						
SITE 004	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	.9987	LD	.9999	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.1145	.0767	.0813	.1960	.1149
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	.2650	.1735	.5320	.2728	.3581
KANSAS						
WICHITA						
SITE 001	75	.1940	.2297	.2701	.1998	.1931
KENTUCKY						
ASHLAND						
SITE 002	75	.1449	.2149	.2263	.1670	.1840
BOWLING GREEN						
SITE 001	75	LD	.1003	.2183	.1320	.1502
COVINGTON						
SITE 001	75	.1087	.2435	.2932	LD	.2218
LEXINGTON						
SITE 001	75	.1882	.2337	LD	LD	
LOUISVILLE						
SITE 002	75	.0581	.1295	.2708	.1370	.1989
LOUISIANA						
BATON ROUGE						
SITE 002	75	.0988	.1275	.0581	.1389	.1016
JEFFVILLE PAR						
SITE 002	75	.1793	LD	.0951	.1753	.1499
NEW ORLEANS						
SITE 002	75	.1469	.1473	.2600	.2164	.2159
SHREVEPORT						
SITE 001	75	.0505	.0309	.1284	.2250	.1084
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.1457	
MARYLAND						
BALTIMORE						
SITE 001	75	.8032	.5745	.6223	.5723	.5186
MASSACHUSETTS						
BOSTON						
SITE 001	75	.0429	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	.9401	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	.0484	
WORCESTER						
SITE 004	75	LD	LD	.3871	.2437	
MICHIGAN						
DEARBORN						
SITE 001	75	.1025	LD	.1345	.0423	.0931
DETROIT						
SITE 001	75	.0828	.0956	.0915	.1182	.1020
FLINT						
SITE 008	75	.0408	LD	LD	.2193	
GRAND RAPIDS						
SITE 001	75	.0796	.0566	.1170	.1708	.1560
LANSING						
SITE 001	75	.2481	.1898	.4508	LD	.1016
SAGINAW						
SITE 001	75	.0721	.1989	.0748	.0452	.1003
TRENTON						
SITE 004	75	LD	LD	.2010	.2050	
MINNESOTA						
DULUTH						
SITE 001	75	.1070	LD	.2874	.2407	.2118
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12119 - COPPER
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CU

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0057
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 20 PRECISION (%) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 027	75	.1643	.2794	.4207	.1974	.3155
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	.1026	LD	.5240	.3319	.3195
MISSISSIPPI						
JACKSON						
SITE 002	75	.2030	LD	.1847	.1409	.1762
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.1169	.1597	LD	
ST LOUIS						
SITE 001	75	.1173	.9299	.2899	.2904	.2778
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.1349	.1090	
NEBRASKA						
LINCOLN						
SITE 002	75	.3372	.5043	.4514	.2049	.3750
OMAHA						
SITE 001	75	.1412	LD	LD	LD	
OMAHA						
SITE 020	75	LD	.1081	.1383	.1244	.1236
OMAHA						
SITE 030	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	.2619	.8030	.2893	.5607	.4787
RENO						
SITE 001	75	.3249	.3146	.2754	.2534	.2931
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.5202	LD	LD	.5519	
NEW JERSEY						
BAYONNE						
SITE 001	75	.1511	LD	.1497	.1211	.1406
CAMDEN						
SITE 001	75	.4081	.3043	.2427	.2388	.2990
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.0975	.0635	.0942	.0697
ELIZABETH						
SITE 002	75	.1038	.1541	.2384	.1536	.1625
GLASSBORO						
SITE 001	75	3.0921	2.3992	2.4241	1.8732	2.4334
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.1004	LD	.1342	.0983	.1116
NEWARK						
SITE 001	75	.0809	LD	.2986	.2548	.2079
PATERSON						
SITE 001	75	.0980	LD	.0788	LD	
PERTH AMBOY						
SITE 001	75	.1218	LD	.2860	.2331	.2136
TRENTON						
SITE 001	75	.1105	.0889	.1658	.1301	.1238
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.9717	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.0758	.0841	.0690	.0649	.0672
BUFFALO						
SITE 001	75	.0193	.0553	.1082	.1177	.0936
NEW YORK CITY						
SITE 014	75	.1415	.2775	.4039	.3003	.2933
NIAGARA FALLS						
SITE 001	75	.1360	.2595	.2170	.2981	.1849
ROCHESTER						
SITE 001	75	.0842	.1755	.1161	.0622	.0846
SYRACUSE						
SITE 001	75	.3613	LD	.4655	.2906	.3691
UTICA						
SITE 001	75	.1912	.0826	.1212	.0623	.1208
YONKERS						
SITE 001	75	.2066	.2711	.0931	.3016	.2906
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.1196	.9638	.6280	.3190	.3804
DURHAM						
SITE 001	75	LD	.2108	.2109	LD	
DURHAM						
SITE 004	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.1823	.1691	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	.1662	
WINSTON-SALEM						
SITE 002	75	.1834	.2459	.4178	.1729	.2569
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.2748	LD	LD	LD	
OHIO						
AKRON						
SITE 014	75	.2856	.3652	.4403	.3600	.3650
CANTON						
SITE 001	75	.1725	.2807	.2658	LD	.2397
CINCINNATI						
SITE 001	75	.2928	1.1588	1.3231	1.3190	1.0193
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.2661	.2475	.2196	.1794	.2269
DAYTON						
SITE 001	75	.2642	.1457	.1234	.0948	.1548
IRONTON						
SITE 009	75	.3607	.9177	.6470	.6024	.6870
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	.4291	.1033	.2310	LD	.2561
STEUBENVILLE						
SITE 012	75	LD	LD	.5782	.2958	
TOLEDO						
SITE 001	75	.9825	.1963	.1858	LD	.4313
YOUNGSTOWN						
SITE 001	75	.0604	.0896	.1340	.6486	.2372
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	.1492	LD	LD	LD	
TULSA						
SITE 110	75	.1290	.1791	.1019	LD	.1353
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12114 - COPPER
METHOD : HI-VOL EMISSION SPECTOR MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
CU

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0057
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 28 PRECISION (%) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	.4044	.4684	.7324	.5351
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.2404	.2382	.1944	.0857	.1920
ALTOONA						
SITE 001	75	.2631	LD	.1258	.1451	.1780
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	.1584	.2339	.1218	.1707
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 161	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.1379	LD	LD	.1356	
JOHNSTOWN						
SITE 003	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	.1234	
PHILADELPHIA						
SITE 004	75	.3276	.4045	.3821	.2422	.3391
PITTSBURGH						
SITE 001	75	.1164	.0984	.1355	.1448	.1237
READING						
SITE 001	75	LD	.1204	LD	LD	
SCRANTON						
SITE 001	75	.0827	.1344	.1195	LD	.1129
WARMINSTER						
SITE 002	75	.0752	.2202	.0741	LD	.1263
WEST CHESTER						
SITE 110	75	.0631	.0939	.1392	.2217	.1295
WILKES-BARRE						
SITE 001	75	.0762	.0787	.0819	.1247	.0904
YORK						
SITE 332	75	.0605	.1122	.1916	LD	.1048
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0730	.0364	.2411	.2553	.1567
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	.3427	LD	.7315	.5477	.5490
PONCE						
SITE 002	75	.0490	LD	.9036	1.4915	.6314
SABANA SECA						
SITE 001	75	.3462	.1580	1.2545	1.4175	.7941
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	.0451	.0835	.5360	.4008	.2711
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0975	.0896	.0486	LD	.0784

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.2715	LD	.4280	.2452	.3622
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.2252	.8736	.4831	.4037	.5580
GREENVILLE						
SITE 001	75	.0883	.2644	.2773	.1749	.2017
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	.1291	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.0339	.0942	.0944	.0991	.0630
KNOXVILLE						
SITE 002	75	.0847	.0424	.3138	.2083	.1903
MEMPHIS						
SITE 001	75	.0783	.0717	.0746	.1049	.0824
NASHVILLE						
SITE 001	75	.3723	.1329	.1836	LD	.2296
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	.5594	.5308	.4677	LD	.5193
BEAUMONT						
SITE 001	75	LD	LD	.0347	LD	
CORPUS CHRISTI						
SITE 001	75	.0185	LD	.0210	.0271	.0222
DALLAS						
SITE 002	75	.1807	.1527	.2099	.1057	.1848
EL PASO						
SITE 002	75	1.0020	.5946	.2946	1.2765	.7919
FORT WORTH						
SITE 001	75	.0757	.0613	.1046	.1015	.0858
HOUSTON						
SITE 001	75	.2050	.2745	.2265	.2028	.2272
LUBBOCK						
SITE 001	75	.0167	LD	.0812	.0322	.0300
PASADENA						
SITE 002	75	.0845	.1036	LD	.1048	.0982
SAN ANTONIO						
SITE 034	75	.0262	.0317	.0507	.0934	.0347
WICHITA FALLS						
SITE 002	75	.0649	.1849	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	.0380	.0589	.0762	.0575
SALT LAKE CITY						
SITE 001	75	.1079	.1231	.2813	.2737	.1945
VERMONT						
BURLINGTON						
SITE 003	75	.1434	.4910	.3943	.5145	.3833
VIRGINIA						
DANVILLE						
SITE 001	75	.0679	.0764	LD	.0378	.0674
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0323	.0242	.0514	.0733	.0463
LYNCHBURG						
SITE 001	75	.0742	.1551	LD	.2153	.1489
LYNCHBURG						
SITE 002	75	LD	LD	.1007	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12119 = COPPER — URBAN
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE — CU
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0057
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 28 PRECISION (S) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.0991	.2135	.2542	.1859
PORTSMOUTH						
SITE 001	75	.1471	LD	LD	.1977	
RICHMOND						
SITE 002	75	.2630	.2572	.1954	.1296	.2101
ROANOKE						
SITE 003	75	.2631	LD	.3019	.1744	.2296
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.2948	.3694	.6948	.4353
SPOKANE						
SITE 001	75	LD	.4799	.8412	.1625	.8279
TACOMA						
SITE 001	75	.1588	.1678	.5441	.5142	.3442
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	.0349	.0308	.0571	.0318	.0387
HUNTINGTON						
SITE 005	75	.2808	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.2779	.1603	.2268	.1582	.2053
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.1511	.1591	.2295	.2395	.1931
KENOSHA						
SITE 001	75	LD	LD	.5348	.7710	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.0421	.0308	LD	.1528	.0753
MILWAUKEE						
SITE 001	75	.0878	.0778	.1819	.1758	.1314
MILWAUKEE						
SITE 099	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0728	.0687	.2429	.2109	.1488
SUPERIOR						
SITE 001	75	.0785	.1913	LD	.1561	.1250
WYOMING						
CASPER						
SITE 001	75	.0553	.0417	.1545	.0859	.0894
CHEYENNE						
SITE 001	75	LD	.2137	.1846	.0818	.2274
VIRGIN ISLANDS						
ST CROIX						
SITE 00A	75	LD	LD	LD	LD	

POLLUTANT : 12114 - COPPER
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
CU

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0057
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 20 PRECISION (%) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT P						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 005	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	.0056	.1686	.0220	.0921
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PAR						
SITE 002	75	.2920	LD	.1622	.1482	.2008
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.1366	
FLORIDA						
HARDEE CO						
SITE 001	75	1.0359	.3866	.3536	LD	.5934
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	.0137	.0796	.0605	.0687	.0556
HAWAII CO						
SITE 002	75	.3456	.2205	LD	.1873	.2524
HAWAII VOLCANOES N						
SITE 001	75	.1293	.1072	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	.0966	.0724	.1898	LD	.1863
ILLINOIS						
CHICAGO						
SITE 002	75	.1573	.1566	.1427	LD	.1502
INDIANA						
MONROE CO						
SITE 001	75	LD	.1944	.7616	.4326	.4629
PARKE CO						
SITE 001	75	LD	.3912	LD	LD	
EDGEWOOD PAR						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.1131	.0852	LD	.1330	.1104
MARYLAND						
CALVERT CO						
SITE 001	75	LD	1.2862	.6684	.1406	1.8317
MISSISSIPPI						
JACKSON CO						
SITE 001	75	.0966	.1643	.4953	.2365	.2357
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	.1529	.2397	.1471	.1398	.1699
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	.3286	.0664	
FORT HOWES						
SITE 008	75	LD	LD	.1066	.1048	
ASHLAND						
SITE 026	75	.0290	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	.3119	.2633	.6960	LD	.4071
NEVADA						
WHITE PINE CO						
SITE 001	75	.0456	.0643	.1109	.0715	.0730
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.7598	2.9318	3.7174	1.8171	2.3065
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.2397	.3204	.1690	LD	.2430
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	.5172	LD	.4949	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	.1471	.2349	.3876	.1260	.2239
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	.0688	.0354	.0976	.1438	.0864
OREGON						
CURRY CO						
SITE 001	75	LD	.1253	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.1502	LD	LD	LD	
INDIANA CO						
SITE 002	75	.2381	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	.3608	LD	.2492	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.0721	LD	.0934	.0528	.0728
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	.3300	.2012	.2646	.3091	.2762
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	.1759	.3553	.3307	LD	.2873
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	.1399	.1844	.4316	.2580	.2535
TEXAS						
MATAGORDA CO						
SITE 001	75	.1870	.7826	.6275	.6037	.5502
TOM GREEN CO						
SITE 001	75	LD	.0658	.1155	.1090	.0968
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.2929	.1747	.1471	LD	.2049
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	.0873	LD	.4265	.1694	.2277
WYTHE CO						
SITE 001	75	.2955	LD	.5715	.2498	.3723
WASHINGTON						
KING CO						
SITE 002	75	.0581	.1480	.3165	.3466	.2173

POLLUTANT : 12114 - COPPER
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
CU

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0057
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 20 PRECISION (%) +- 30

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
DOOR CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PA						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PA						
SITE 001	75	LD	.1937	.1224	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	.2178	.4966	LD	
ST CROIX						
SITE 004	75	LD	.2515	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12126 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
FE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .005
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 25 PRECISION (%) +- 39

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 001	75	1.0077	1.1803	1.0221	LD	1.0700
CADSDEN						
SITE 001	75	1.3794	1.2231	1.2980	LD	1.2968
HUNTSVILLE						
SITE 001	75	.4954	LD	.2944	.3504	.3809
MOBILE						
SITE 001	75	1.4304	.9837	LD	1.2015	1.2053
MONTGOMERY						
SITE 001	75	.2004	.1971	.4586	.5641	.4276
ALASKA						
ANCHORAGE						
SITE 003	75	LD	2.8171	1.3627	1.8017	1.9938
FAIRBANKS						
SITE 001	75	.9458	LD	LD	.3957	
ARIZONA						
DOUGLAS						
SITE 004	75	2.0121	1.5748	.7003	1.1044	1.3484
PHOENIX						
SITE 002	75	2.6417	2.4539	LD	2.7448	2.6209
TUCSON						
SITE 001	75	1.2123	1.0846	.7693	1.5877	1.1435
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	.6419	.8125	.7310	.4640	.6674
TEXARKANA						
SITE 001	75	.9194	.4943	LD	.5110	.6254
WEST MEMPHIS						
SITE 001	75	1.1698	1.4172	.8203	LD	1.1391
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	1.3496	.8393	1.1575	1.3747	1.2303
BERKELEY						
SITE 001	75	.4016	.2017	.4179	.5615	.4457
BURBANK						
SITE 002	75	2.0491	.9622	1.4075	2.0694	1.4209
FRESNO						
SITE 002	75	1.7125	1.2479	2.4687	1.1948	1.7040
GLENDALE						
SITE 001	75	LD	LD	1.1543	1.3634	
LONG BEACH						
SITE 001	75	1.5458	1.1490	1.2345	1.3636	1.3285
LOS ANGELES						
SITE 001	75	LD	1.1749	1.1040	1.9180	1.3990
OAKLAND						
SITE 001	75	.7009	1.0146	1.0674	1.3437	1.0322
ONTARIO						
SITE 001	75	3.0443	LD	LD	LD	
PASADENA						
SITE 002	75	1.1729	.7458	.9042	1.0137	.9642
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	.3327	.4389	.8396	.4304	.5104
SAN BERNARDINO						
SITE 001	75	1.3720	2.8109	3.3857	1.7957	2.3286
SAN DIEGO						
SITE 004	75	1.5076	1.7747	.6945	1.1394	1.2791
SAN FRANCISCO						
SITE 001	75	.6713	.5347	.3493	.3852	.4851

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	1.2256	1.1085	1.1384	1.1713	1.2110
SANTA ANA						
SITE 001	75	.9143	1.1584	1.0931	1.0683	1.0656
TORRANCE						
SITE 001	75	1.9459	1.9649	.8340	1.0146	1.2378
COLORADO						
DENVER						
SITE 001	75	LD	.9341	2.7046	LD	
DENVER						
SITE 002	75	5.1140	1.9875	1.4854	5.8127	3.3308
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	1.1804	.9680	.6407	.6074	.8739
HARTFORD						
SITE 002	75	1.2122	.8806	.6111	.8661	.7648
NEW HAVEN						
SITE 001	75	1.5003	1.1458	.7838	.6130	1.0106
WATERBURY						
SITE 001	75	1.4175	1.7594	1.4430	.7094	1.3923
WATERBURY						
SITE 103	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.9782	1.0569	1.1847	.8038	1.0542
WILMINGTON						
SITE 002	75	1.1074	LD	.9349	.9771	1.0045
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	1.0948	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.9818	1.9535	.7947	.6644	.8366
MIAMI						
SITE 002	75	.9945	.6194	.4207	.3721	.4610
ST PETERSBURG						
SITE 002	75	.5094	.9260	.9277	.2431	.3766
TAMPA						
SITE 002	75	LD	LD	.6943	LD	
GEORGIA						
ATLANTA						
SITE 001	75	.6947	.6717	.8509	.5882	.7019
COLUMBUS						
SITE 001	75	.9842	.9486	.4216	.4598	.4516
SAVANNAH						
SITE 001	75	.6640	.6291	.8265	.9117	.7561
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.3632	.5437	.4804	.5321	.4819
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	1.5918	.8639	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	1.3310	3.0247	1.5918	1.9768
EAST ST LOUIS						
SITE 001	75	LD	LD	2.2077	2.8617	
JOLIET						
SITE 001	75	1.2848	LD	1.6048	1.0412	1.3133
MOLINE						
SITE 001	75	1.0055	1.0432	1.0792	.9418	1.0229

POLLUTANT : 12126 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .005
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 25 PRECISION (P) +- 39

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	.6370	LD	1.0628	.8481	.8693
PEORIA						
SITE 001	75	1.0128	1.3685	3.0999	2.0775	2.3872
ROCKFORD						
SITE 001	75	.6703	.6273	LD	.7441	.6804
ROCK ISLAND						
SITE 001	75	.7346	1.2096	1.1331	1.1281	1.0506
SPRINGFIELD						
SITE 001	75	.9817	.9131	LD	1.1017	.8329
INDIANA						
EAST CHICAGO						
SITE 001	75	4.5083	7.0192	LD	6.6110	6.3828
EVANSVILLE						
SITE 001	75	.5699	.6112	1.3775	.8023	.8127
FORT WAYNE						
SITE 002	75	LD	.7749	LD	.9360	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	3.9413	LD	3.1347	3.4272	1.5677
HAMMOND						
SITE 002	75	3.9634	2.3732	3.0758	1.6069	2.6023
INDIANAPOLIS						
SITE 001	75	1.0074	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.7202	.9410	LD	
NEW ALBANY						
SITE 002	75	LD	LD	1.0317	.9911	
SOUTH BEND						
SITE 002	75	.7694	1.0589	1.2014	.9920	.9679
TERRE HAUTE						
SITE 001	75	.8197	1.3635	1.4277	1.0595	1.1676
IOWA						
CEDAR RAPIDS						
SITE 018	75	1.1108	1.1117	.9957	.9054	1.0308
DAVENPORT						
SITE 001	75	.7953	LD	1.1000	1.0949	.9941
DES MOINES						
SITE 001	75	.8823	1.4177	1.7094	1.3979	1.3380
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	.9449	.5285	.6215	.3572	.4875
DUBUQUE						
SITE 008	75	.9260	.6283	.6819	.8083	.6305
WATERLOO						
SITE 004	75	.6455	.9985	.9969	1.4063	1.0093
WATERLOO						
SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	1.3816	LD	1.5339	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	1.7768	1.9719	2.0206	1.9085	1.7948
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	.5516	.5201	.7132	.7468	.6329

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	.4963	.4562	.8014	.8027	.7017
KENTUCKY						
ASHLAND						
SITE 002	75	2.7402	1.5331	1.7544	2.2895	1.6786
BOWLING GREEN						
SITE 001	75	LD	.8297	.2700	.2937	.3341
COVINGTON						
SITE 001	75	.9843	.9167	1.9808	LD	1.2833
LEXINGTON						
SITE 001	75	.5450	1.1505	LD	LD	
LOUISVILLE						
SITE 002	75	.6817	1.1180	1.0706	.7011	.9173
LOUISIANA						
BATON ROUGE						
SITE 002	75	.3009	.3705	.4327	.3151	.3564
JOEVILLE PAR						
SITE 002	75	.4210	LD	.2741	.2302	.2884
NEW ORLEANS						
SITE 002	75	.6849	.5457	.6205	.5194	.5864
SHREVEPORT						
SITE 001	75	1.3098	1.7919	1.7324	2.7693	1.7820
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.5066	
MARYLAND						
BALTIMORE						
SITE 001	75	1.2359	1.6250	1.1935	1.6678	1.4031
MASSACHUSETTS						
BOSTON						
SITE 001	75	1.0710	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	.7904	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	.5898	
WORCESTER						
SITE 004	75	LD	LD	.7008	.6312	
MICHIGAN						
DEARBORN						
SITE 001	75	4.7008	LD	2.8069	1.7461	1.1179
DETROIT						
SITE 001	75	1.6933	2.3551	2.1291	2.5457	2.1858
FLINT						
SITE 008	75	.9497	LD	LD	.7409	
GRAND RAPIDS						
SITE 001	75	1.0520	1.0807	1.4583	1.0387	1.1598
LANSING						
SITE 001	75	1.2171	1.0967	1.5803	LD	1.2914
SAGINAW						
SITE 001	75	.6496	1.1433	1.3707	1.1584	1.0798
TRENTON						
SITE 004	75	LD	LD	1.2810	1.6691	
MINNESOTA						
DULUTH						
SITE 001	75	1.7345	LD	1.7395	1.2698	1.5763
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12126 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .045
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 2% PRECISION (R) +- 3%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 022	75	.7110	.9878	1.6253	1.3377	1.1533
IRONWOOD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	1.0274	LD	1.9697	1.9324	1.3115
MISSISSIPPI						
JACKSON						
SITE 002	75	.5576	LD	.9974	.7333	.5975
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	1.3199	1.6414	LD	
ST LOUIS						
SITE 001	75	1.3950	1.8991	1.6277	1.0111	1.4820
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.9345	1.1010	
NEBRASKA						
LINCOLN						
SITE 002	75	.8745	.9775	.6934	1.2942	.9350
OMAHA						
SITE 001	75	1.5729	LD	LD	LD	
OMAHA						
SITE 030	75	LD	1.4039	1.3644	1.8248	1.5307
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	.9827	.6370	.7488	1.0641	.8637
RENO						
SITE 001	75	2.1270	.8272	.9113	2.0695	1.4835
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.7438	LD	LD	.4391	
NEW JERSEY						
BAYONNE						
SITE 001	75	.9648	LD	1.0121	1.2315	1.0661
CAMDEN						
SITE 001	75	1.7850	2.7478	2.0565	2.0911	2.1574
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.6170	.9752	1.1705	.8874
ELIZABETH						
SITE 002	75	.8073	1.0784	.9356	1.2994	1.0302
GLASSBORO						
SITE 001	75	.7479	.3264	.5560	.4820	.5281
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	1.7414	LD	1.2490	.8294	1.1067
NEWARK						
SITE 001	75	1.5434	LD	1.0275	.9548	1.1824
PATERSON						
SITE 001	75	.7323	LD	.4586	LD	
PERTH AMBOY						
SITE 001	75	.7884	LD	1.7851	1.2037	1.2487
TRENTON						
SITE 001	75	.9811	.8339	1.7053	1.3119	1.2081
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.4711	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.5951	.5491	.5260	.4222	.5731
BUFFALO						
SITE 001	75	.9518	1.3665	1.3891	1.3643	1.2661
NEW YORK CITY						
SITE 019	75	1.1004	1.5469	1.4316	1.2478	1.3668
NIAGARA FALLS						
SITE 001	75	1.6940	1.7578	1.4905	1.4389	1.5933
ROCHESTER						
SITE 001	74	.6132	1.0167	1.2877	.9380	.9289
SYRACUSE						
SITE 001	75	1.0202	LD	1.1277	.8072	1.0117
UTICA						
SITE 001	75	1.2240	.6435	1.3655	.9570	1.0277
YONKERS						
SITE 001	75	.5864	1.7954	1.3279	1.1191	1.2124
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.3356	.5179	.4844	.4312	.4923
DURHAM						
SITE 001	75	LD	.9739	1.0040	LD	
DURHAM						
SITE 006	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.8485	.8103	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	.4648	
WINSTON-SALEM						
SITE 002	75	.5244	.8189	.9308	1.1328	.9540
NORTH DAKOTA						
BISMARCK						
SITE 001	75	1.2168	LD	LD	LD	
OHIO						
AKRON						
SITE 019	75	3.5150	2.1832	2.4729	2.1457	2.4292
CANTON						
SITE 001	75	2.4956	2.4127	4.3239	LD	3.0772
CINCINNATI						
SITE 001	75	1.0907	1.0878	2.0242	1.4161	1.4547
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	1.1393	1.3275	1.8933	1.5130	1.4573
DAYTON						
SITE 001	75	1.0208	1.3280	1.4475	1.8327	1.4073
IRONTON						
SITE 009	75	1.3261	2.2301	1.7947	1.7197	1.8189
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	.6950	.9402	1.6186	LD	1.0913
STEUBENVILLE						
SITE 012	75	LD	LD	2.4915	2.9455	
TOLEDO						
SITE 001	75	1.1744	1.2765	1.6719	LD	1.3808
YOUNGSTOWN						
SITE 001	75	2.9912	3.9009	4.1013	3.9499	3.7157
OKLAHOMA						
CHEROKEE CO						
SITE 980	75	.2156	LD	LD	LD	
TULSA						
SITE 110	75	.5294	.8662	.8418	LD	.7509
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12176 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .005
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 25 PRECISION (S) .. 34

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	.6387	.9239	.6341	.2322
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.1765	.9721	.6633	.9175	.9324
ALTOONA						
SITE 001	75	2.7614	LD	1.3401	.8538	.9818
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	.8925	1.1420	1.6254	1.5533
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 361	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	2.2624	LD	LD	1.5191	
JOHNSTOWN						
SITE 803	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	1.4172	
PHILADELPHIA						
SITE 004	75	1.9034	1.2992	1.1778	1.2752	1.2762
PITTSBURGH						
SITE 001	75	3.8469	1.8040	2.7844	1.9885	2.6310
READING						
SITE 001	75	LD	.9562	LD	LD	
SCRANTON						
SITE 001	75	5.8464	2.7748	2.6459	LD	3.7564
WARMINSTER						
SITE 002	75	.6935	1.4581	1.6114	LD	1.2207
WEST CHESTER						
SITE 110	75	.5076	.6549	.8186	.4904	.6929
WILKES-BARRE						
SITE 001	75	1.2795	1.4379	1.1291	1.5186	1.3387
YORK						
SITE 322	75	1.2146	.9041	1.0920	LD	1.0709
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.9797	.9297	1.8761	.9326	.9283
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	74	1.0985	LD	1.3140	.6321	1.0149
PONCE						
SITE 002	75	.9749	LD	1.5943	1.2880	1.1197
SABANA SECA						
SITE 001	75	1.1649	1.1275	1.0771	.9681	1.0597
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	1.1624	1.2687	1.7017	.9286	1.2654
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.6711	.4549	.5339	LD	.6200

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	1.2231	LD	.6728	.9465	.8807
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.6529	.9290	.3917	.9031	.7389
GREENVILLE						
SITE 001	75	.5410	.5547	.9177	.9335	.9917
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	1.0729	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.9849	1.1399	1.7042	2.9327	1.4908
KNOXVILLE						
SITE 002	75	.9892	.5741	.6788	.7949	.8118
MEMPHIS						
SITE 001	75	.7188	1.1638	1.1364	.8871	.9763
NASHVILLE						
SITE 001	75	1.0040	1.1682	1.0508	LD	1.0783
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	.3792	.3945	.3912	LD	.3983
BEAUMONT						
SITE 001	74	LD	LD	.8591	LD	
CORPUS CHRISTI						
SITE 001	75	.6159	LD	.6941	.8764	.6295
DALLAS						
SITE 002	75	1.3918	1.4985	1.9003	1.7821	1.6349
EL PASO						
SITE 002	75	1.8829	1.8765	.9653	2.1128	1.7693
FORT WORTH						
SITE 001	75	.6170	.5851	.8921	1.0084	.7753
HOUSTON						
SITE 001	75	1.2274	.7879	1.3903	1.1078	1.1384
LUBBOCK						
SITE 001	75	.7725	LD	1.1002	1.8735	1.2487
PASADENA						
SITE 002	75	1.1398	2.1679	LD	.7488	1.3872
SAN ANTONIO						
SITE 034	75	.3255	.3379	.3384	.3014	.3464
WICHITA FALLS						
SITE 002	75	.8847	.9871	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	1.0009	1.0979	1.9037	1.3340
SALT LAKE CITY						
SITE 001	75	2.0118	.8602	1.1093	2.2196	1.5560
VERMONT						
BURLINGTON						
SITE 003	75	.8931	1.9036	.7380	.6917	1.0548
VIRGINIA						
DANVILLE						
SITE 001	75	.5300	.8805	LD	1.0652	.8162
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.7720	.6988	.6915	.5849	.6391
LYNCHBURG						
SITE 001	75	.9188	1.0326	LD	1.5787	1.1767
LYNCHBURG						
SITE 002	75	LD	LD	1.0048	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12126 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .005
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 25 PRECISION (S) +- 39

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	1.0885	.2778	.5859	.6501
PORTSMOUTH						
SITE 001	75	1.2090	LD	LD	.7217	
RICHMOND						
SITE 002	75	.7275	1.0092	.9249	.6217	.7965
ROANOKE						
SITE 003	75	.5203	LD	.7109	.5306	.5873
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.9948	.4192	.7992	.7867
SPOKANE						
SITE 001	75	LD	1.2158	2.5359	.6965	1.9826
TACOMA						
SITE 001	75	.5708	.5098	.4265	.4757	.5457
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	1.0905	1.3617	1.7588	1.3139	1.3812
HUNTINGTON						
SITE 005	75	2.2066	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.8443	.7997	.8294	1.0945	.8838
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.3921	.6423	.9965	.6783	.6573
KENOSHA						
SITE 001	75	LD	LD	1.1723	1.4036	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.4154	.5990	LD	.5240	.5785
MILWAUKEE						
SITE 001	75	1.3414	1.1954	2.2487	1.4834	1.6048
MILWAUKEE						
SITE 099	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	1.3207	.8456	.9817	1.5912	1.1973
SUPERIOR						
SITE 001	75	.8053	1.0058	LD	1.1763	1.0625
WYOMING						
CASPER						
SITE 001	75	.5157	.4853	1.0017	.4783	.4703
CHEYENNE						
SITE 001	75	LD	.7849	.4490	.4978	.4742
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

POLLUTANT : 12126 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
FE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .005
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 25 PRECISION (R) +- 34

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT P						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 005	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	.2621	.1474	.1948	.1848
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PAR						
SITE 002	75	.1069	LD	.2130	.1194	.1446
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.8623	
FLORIDA						
MONROE CO						
SITE 001	75	.1800	.2121	.1026	LD	.1649
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	.0835	LD	LD	
HAWAII CO						
SITE 002	75	.0814	.3829	LD	.1544	.2079
HAWAII VOLCANOES N						
SITE 001	75	.0620	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	.1594	.3641	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	2.5799	1.2708	1.0364	LD	2.0624
INDIANA						
MONROE CO						
SITE 001	75	LD	.5956	.4447	.4710	.5611
PARKE CO						
SITE 001	75	LD	.3929	LD	LD	
INDEPENDENCE PAR						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.1878	.2994	LD	.1057	.1793
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.4083	.3268	.2705	.3352
MISSISSIPPI						
JACKSON CO						
SITE 001	75	.1111	.1920	.0566	.1806	.1351
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	.0999	.1412	.1994	.2718	.1789
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	.7381	LD	
FORT HOWES						
SITE 00A	75	LD	LD	.2896	.3643	
ASHLAND						
SITE 02A	75	.1129	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	.1821	.2550	.3942	LD	.2771

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	.4292	.1939	.0884	.2372
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.2013	.1698	.1684	.1332	.1675
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.2347	.2829	.3135	LD	.2770
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	1.2483	LD	1.4314	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	1.0754	.7121	.8862	.8523	.8814
OKLAHOMA CITY						
SITE 015	74	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	1.1908	1.2993	1.1171	1.1100	1.1793
OREGON						
CURRY CO						
SITE 001	75	LD	.3166	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.3867	LD	LD	LD	
INDIANA CO						
SITE 002	75	.9862	LD	LD	LD	
PHILADELPHIA						
SITE 002	74	1.5225	LD	1.2994	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.2990	LD	.1584	.2982	.2063
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	.1451	.1827	.1391	.1781	.1685
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	.0627	.2391	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	.2409	.4994	.6340	.3191	.4098
TEXAS						
MATAGORDA CO						
SITE 001	75	.1178	.2392	.4293	.1264	.2282
TOM GREEN CO						
SITE 001	74	LD	.4093	.2992	.3122	.3234
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.4917	.3854	.3444	LD	.4072
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	.1049	LD	.1777	.2281	.1622
WYTHE CO						
SITE 001	75	.1755	LD	.1948	.1771	.1657
WASHINGTON						
KING CO						
SITE 002	75	.2265	.5333	.4188	.1983	.3207

POLLUTANT : 12126 - IRON
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
FE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .005
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 2% PRECISION (R) +- 3%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
0004 CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PA						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PA						
SITE 001	75	LD	.1926	.1973	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	1.7136	1.2293	LD	
ST CROIX						
SITE 004	75	LD	.3993	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12128 - LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .11749
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 1% PRECISION (%) +- 2%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	.5306	.5906	.0955	LD	.4727
CASSOPEN						
SITE 001	75	.9494	.5701	.7044	LD	.7780
HUNTSVILLE						
SITE 001	75	.5370	LD	.8707	.6733	.6300
MOBILE						
SITE 001	75	.8482	.7747	LD	1.1317	.9255
MONTGOMERY						
SITE 001	75	.6220	.4910	.6069	1.2040	.7310
ALASKA						
ANCHORAGE						
SITE 003	75	LD	.7082	.8911	2.0882	1.2126
FAIRBANKS						
SITE 001	75	1.6492	LD	LD	.7845	
ARIZONA						
DOUGLAS						
SITE 004	75	.9092	.2181	.1932	.3239	.3135
PHOENIX						
SITE 003	75	1.9222	1.1929	LD	3.1451	2.0744
TUCSON						
SITE 001	75	.7768	.4203	.8212	1.2471	.7399
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	.7804	.8618	.7987	.9054	.8344
TEXARKANA						
SITE 001	75	.6038	.3997	LD	.3795	.4427
WEST MEMPHIS						
SITE 001	75	.8117	.6222	.7893	LD	.7627
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	2.1447	.8477	1.6897	2.4584	1.0956
BERKELEY						
SITE 001	75	.9539	.2459	.9844	1.0691	.8685
BURBANK						
SITE 002	75	3.5118	1.3809	2.9786	4.9930	2.9782
FRESNO						
SITE 002	75	.9205	.4785	.9248	1.5902	.9535
GLENDALE						
SITE 001	75	LD	LD	2.2991	2.8754	
LONG BEACH						
SITE 001	75	2.8194	1.0259	.9250	2.8924	1.9035
LOS ANGELES						
SITE 001	75	LD	1.2308	1.0115	3.2140	2.1224
OAKLAND						
SITE 001	75	.9334	.5175	.8479	1.9005	1.0234
ONTARIO						
SITE 001	75	2.0163	LD	LD	LD	
PASADENA						
SITE 002	75	1.7398	1.1579	1.7223	3.1681	1.4961
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	1.0974	.9189	.4546	1.4111	.8854
SAN BERNARDINO						
SITE 001	75	1.1639	1.3098	1.4057	2.7139	1.3731
SAN DIEGO						
SITE 004	75	1.5116	.8367	.4490	2.4928	1.3573
SAN FRANCISCO						
SITE 001	75	1.1791	.7983	.6492	1.2294	.9368

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	1.9984	.6929	.8947	2.3490	1.4882
SANTA ANA						
SITE 001	75	1.7227	.8309	.8089	3.1612	1.6318
TORRANCE						
SITE 001	75	2.8448	1.0441	.8418	3.4320	2.0884
COLORADO						
DENVER						
SITE 001	75	LD	.5907	1.2582	LD	
DENVER						
SITE 002	75	1.9222	1.1935	1.2882	2.6261	1.7623
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	1.4774	1.1522	1.2501	1.9408	1.3824
HARTFORD						
SITE 002	75	.9471	.8446	.8403	.9075	.8824
NEW HAVEN						
SITE 001	75	1.3428	.9948	.5402	1.0488	1.0709
WATERBURY						
SITE 001	75	1.0495	1.5419	1.6980	1.9627	1.5179
WATERBURY						
SITE 103	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.3958	.3930	.3761	.5117	.4189
WILMINGTON						
SITE 002	75	.7790	LD	1.0699	1.5470	1.1384
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	1.0800	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.9766	.7757	.8119	1.9048	.9427
MIAMI						
SITE 002	75	1.1001	1.2390	1.0494	1.0194	1.1211
ST PETERSBURG						
SITE 002	75	1.0039	.2245	.3574	.4600	.5690
TAMPA						
SITE 002	75	LD	LD	.9308	LD	
GEORGIA						
ATLANTA						
SITE 001	75	.8039	.7497	1.1781	1.0080	.9449
COLUMBUS						
SITE 001	75	.6772	.3675	.2891	.8834	.5544
SAVANNAH						
SITE 001	75	.9529	.9362	.4711	.6348	.7960
HAWAII						
MAUKA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.6547	.8072	.5879	1.0044	.7741
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	.3922	1.5158	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.7977	1.6914	1.9384	1.2309
EAST ST LOUIS						
SITE 001	75	LD	LD	.8425	1.7994	
JOLIET						
SITE 001	75	.5118	LD	.6853	.8060	.6360
MOLINE						
SITE 001	75	.9409	.4954	.4718	.8735	.6201

POLLUTANT : 12128 - LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .1
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 10 PRECISION (%) +- 24

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
CHICAGO						
SITE 002	75	.9364	LD	.7940	.9941	.7588
PEORIA						
SITE 001	75	.3210	.7199	1.1779	1.1214	.8339
ROCKFORD						
SITE 001	75	.9933	.3948	LD	1.0954	.6118
ROCK ISLAND						
SITE 001	75	.3696	.9526	.4913	1.0907	.6508
SPRINGFIELD						
SITE 001	75	.3700	.9351	LD	.8131	.5394
INDIANA						
EAST CHICAGO						
SITE 001	75	2.1122	1.6175	LD	1.3595	2.6991
EVANSVILLE						
SITE 001	75	.3198	.2991	.7205	.8174	.5355
FORT WAYNE						
SITE 002	75	LD	.6756	LD	.8897	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.5782	LD	.8349	1.5240	.9788
HAMMOND						
SITE 002	75	.8008	.7094	.9582	.8930	.8399
INDIANAPOLIS						
SITE 001	75	.7429	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.8999	1.0309	LD	
NEW ALBANY						
SITE 002	75	LD	LD	.9913	1.9604	
SOUTH BEND						
SITE 002	75	.6974	.7290	.9239	.7394	.7472
TERRE HAUTE						
SITE 001	75	.3784	.4884	.5935	.4870	.5367
IOWA						
CEDAR RAPIDS						
SITE 010	75	.9857	.4034	.7197	.6592	.9449
DAVENPORT						
SITE 001	75	.4358	LD	.6994	.9694	.7452
DES MOINES						
SITE 001	75	.7066	.6608	.9632	1.1748	.8815
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	.1862	.2070	.2045	.1690	.1919
DUBUQUE						
SITE 008	75	.1630	.1231	.2208	.3800	.2220
WATERLOO						
SITE 004	75	.9438	.3783	.1310	.8591	.5183
WATERLOO						
SITE 004	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	.9550	LD	.1911	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.3126	.3896	.9027	.8540	.9139
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	.9190	.2739	.2238	.6263	.3659

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	.3890	.2215	.2919	.4196	.3717
KENTUCKY						
ASHLAND						
SITE 002	75	.8127	1.3199	.7100	.6015	.8824
BOWLING GREEN						
SITE 001	75	LD	.3030	.9408	.9002	.3470
COVINGTON						
SITE 001	75	.9041	.5642	.7429	LD	.6021
LEXINGTON						
SITE 001	75	.8027	.8834	LD	LD	
LOUISVILLE						
SITE 002	75	.8479	.7487	1.0091	.8107	.9139
LOUISIANA						
BATON ROUGE						
SITE 002	75	.8417	.8178	.7040	1.0089	.7679
PREVILLE PAR						
SITE 002	75	.1020	LD	.2181	LD	
NEW ORLEANS						
SITE 002	75	1.0325	.7407	.9515	.8087	.8504
SHREVEPORT						
SITE 001	75	.9187	.3699	.8024	.8074	.8055
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.5087	
MARYLAND						
BALTIMORE						
SITE 001	75	.7282	.7802	1.0293	1.9430	.9717
MASSACHUSETTS						
BOSTON						
SITE 001	75	.8240	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	.5380	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	1.9087	
WORCESTER						
SITE 008	75	LD	LD	.7808	.8883	
MICHIGAN						
DEARBORN						
SITE 001	75	.9565	LD	1.1619	1.0087	1.0720
DETROIT						
SITE 001	75	.8395	.6598	1.1978	1.1008	.9707
FLINT						
SITE 008	75	.8063	LD	LD	.7087	
GRAND RAPIDS						
SITE 001	75	.9195	.7179	1.2034	1.1980	.9923
LANSING						
SITE 001	75	.8643	.9713	.7347	LD	.6868
MACINAW						
SITE 001	75	.2931	.3619	.6527	.6499	.4666
TRENTON						
SITE 004	74	LD	LD	.6942	.7984	
MINNESOTA						
DULUTH						
SITE 001	75	.9293	LD	.6005	.6190	.9546
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12128 - LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .1749
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 14 PRECISION (P) +- 24

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 022	75	1.7504	1.0309	1.1375	2.1443	1.5232
MOOREHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	.9580	LD	3.2939	2.2635	2.1508
MISSISSIPPI						
JACKSON						
SITE 002	75	.6043	LD	.4303	.8928	.6425
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.5309	.7277	LD	
ST LOUIS						
SITE 001	75	1.0190	.9478	.8439	.9811	.7227
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.7109	.9187	
NEBRASKA						
LINCOLN						
SITE 002	75	.3081	.3914	.2585	.4955	.3634
OMAHA						
SITE 001	75	.5743	LD	LD	LD	
OMAHA						
SITE 030	75	LD	.7308	.4989	.9902	.7900
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	2.0849	.8939	1.4287	2.9071	1.8167
RENO						
SITE 001	75	1.9894	.5099	.6997	2.1538	1.1842
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.4152	LD	LD	.5581	
NEW JERSEY						
BAYONNE						
SITE 001	75	.7294	LD	.7285	.8544	.7309
CAMDEN						
SITE 001	75	.9140	1.0734	1.2245	1.2822	1.0997
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.4793	.7252	.9111	.7215
ELIZABETH						
SITE 002	75	.9106	.9927	1.1012	1.3191	1.0521
GLASSBORO						
SITE 001	75	.9503	.3358	.4946	.9980	.6202
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	1.0998	LD	1.1159	.7859	.9838
NEWARK						
SITE 001	75	.9096	LD	1.1826	1.2994	1.1138
PATERSON						
SITE 001	75	1.2356	LD	1.2205	LD	
PERTH AMBOY						
SITE 001	75	.5647	LD	1.1400	.8461	.8499
TRENTON						
SITE 001	75	.5994	.5374	1.3115	.9575	.8515
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.2807	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.5160	.9023	.4371	.5171	.4779
BUFFALO						
SITE 001	75	.9078	.4283	.7779	.9498	.8284
NEW YORK CITY						
SITE 019	75	.8146	.8389	.9763	1.0079	.9322
NIAGARA FALLS						
SITE 001	75	.9411	.3289	.5910	.9484	.8309
ROCHESTER						
SITE 001	74	.6324	.6154	.8139	.6861	.6817
SYRACUSE						
SITE 001	75	.8846	LD	.9741	.8935	.9114
UTICA						
SITE 001	75	.7760	.6478	1.0019	.6790	.7907
YONKERS						
SITE 001	75	.8192	1.2239	1.4720	1.2985	1.1865
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.9264	.5111	.6798	1.2380	.8866
DURHAM						
SITE 001	75	LD	.6229	.6019	LD	
DURHAM						
SITE 004	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.5393	.3749	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	1.1619	
WINSTON-SALEM						
SITE 002	75	.6716	.9830	.8595	1.2178	.8074
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.8960	LD	LD	LD	
OHIO						
AKRON						
SITE 018	75	.4101	.9984	.2770	.7004	.6691
CANTON						
SITE 001	75	.8429	.6865	.8966	LD	.8976
CINCINNATI						
SITE 001	75	.5599	.7729	.9889	1.1771	.8923
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.9063	.5521	1.2307	.8401	.7573
DAYTON						
SITE 001	75	.5475	.5705	.9872	1.0464	.7842
IRONTON						
SITE 009	75	.3817	.3929	.4583	.4358	.4550
MIDDLEFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	74	.3332	.3588	.4160	LD	.9367
STEUBENVILLE						
SITE 012	75	LD	LD	.8930	.8821	
TOLEDO						
SITE 001	74	.9367	.8030	.8853	LD	.8912
YOUNGSTOWN						
SITE 001	75	.3569	.9009	.6739	.8608	.6703
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	LD	LD	LD	LD	
TULSA						
SITE 110	74	.9798	.9035	.3841	LD	.9231
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 1212R = LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LDL) .1;769
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 14 PRECISION (%) +- 26

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
PORTLAND						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	.4112	.7450	1.0345	.7976
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.8594	.6091	.6342	.8682	.7415
ALTOONA						
SITE 001	75	.8248	LD	.5961	.4246	.6818
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	.2620	.2381	.5813	.3606
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 361	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.7534	LD	LD	.7808	
JOHNSTOWN						
SITE 803	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	1.0879	
PHILADELPHIA						
SITE 004	75	1.0448	1.0230	1.0492	1.1548	1.0739
PITTSBURGH						
SITE 001	75	.7947	.6351	1.0339	.8257	.8224
READING						
SITE 001	75	LD	.7207	LD	LD	
SCRANTON						
SITE 001	75	2.2858	1.9358	1.4547	LD	1.8921
STAMINSTER						
SITE 002	75	.5188	.6669	.7441	LD	.7099
WEST CHESTER						
SITE 110	75	.3065	.8303	.6205	.6958	.6880
WILKES-BARRE						
SITE 001	75	.6434	.6758	.6093	1.0944	.7432
YORK						
SITE 322	75	.7511	.6790	.8373	LD	.7558
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.1918	LD	.2809	.1713	.2145
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	.7556	LD	.9214	.7897	.8222
PONCE						
SITE 002	75	.5270	LD	.7183	1.4692	.9048
SERANA SECA						
SITE 001	75	.5488	.3843	.4379	1.0069	.5956
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	1.3042	1.0873	1.4146	1.9282	1.4337
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	1.0337	.5806	.6968	LD	.7370

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	1.4640	LD	.6538	1.2113	1.2130
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.7198	.9243	.6084	.8625	1.0013
GREENVILLE						
SITE 001	75	.9213	.7979	1.0834	.5217	1.0811
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	.3930	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.3895	.9730	.7854	1.2101	.8996
KNOXVILLE						
SITE 002	75	.5949	.5140	.7998	1.2008	.7774
MEMPHIS						
SITE 001	75	1.5362	1.9807	1.9960	1.7740	1.8222
NASHVILLE						
SITE 001	75	.7174	.7560	.8927	LD	.8217
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	.5755	.6900	.7177	LD	.6944
BEAUMONT						
SITE 001	75	LD	LD	.7995	LD	
CORPUS CHRISTI						
SITE 001	75	.8819	LD	.9078	1.0674	.9441
DALLAS						
SITE 002	75	2.8598	2.3126	3.0308	2.8451	2.7691
EL PASO						
SITE 002	75	2.3383	1.2858	.6924	1.9744	1.5727
FORT WORTH						
SITE 001	75	.5964	.4335	.9472	.9627	.7350
HOUSTON						
SITE 001	75	2.2448	1.3238	1.9991	2.0036	1.9148
LUBBOCK						
SITE 001	75	.3688	LD	.5207	1.0650	.6615
PASADENA						
SITE 002	75	.9241	.8305	LD	.9103	.9883
SAN ANTONIO						
SITE 039	75	.8303	.5747	.5984	.9093	.7149
WICHITA FALLS						
SITE 002	75	.4367	.3659	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	.4930	.7964	1.0099	1.0664
SALT LAKE CITY						
SITE 001	75	1.1963	.6984	.8126	1.0761	1.1335
VERMONT						
BURLINGTON						
SITE 003	75	.9064	1.3419	.6119	.8614	.8029
VIRGINIA						
DANVILLE						
SITE 001	75	.3706	.3959	LD	.7350	.4972
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.9933	.4180	.3927	.5334	.4842
LYNCHBURG						
SITE 001	75	.6237	.6056	LD	.9091	.7095
LYNCHBURG						
SITE 002	75	LD	LD	.5692	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12128 = LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .1.1749
95 PERCENT CONFIDENCE LIMITS
BIAS (P) 1% PRECISION (R) +- 7%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.3924	.2817	.7499	.4812
PORTSMOUTH						
SITE 001	75	.8796	LD	LD	1.1210	
RICHMOND						
SITE 002	75	.8859	.5497	.9854	.8130	.8095
ROANOKE						
SITE 003	75	.5191	LD	.5588	.6847	.5540
WASHINGTON						
SEATTLE						
SITE 001	75	LD	1.0177	.8221	1.6242	1.1220
SPOKANE						
SITE 001	75	LD	.3750	.5712	.4849	.5444
TACOMA						
SITE 001	75	.5974	.4394	.4991	.9980	.6712
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	.6962	.6164	.8681	.9942	.7817
HUNTINGTON						
SITE 005	75	1.1219	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.5437	.4113	.6872	.4534	.5990
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.3627	.3119	.2914	.6012	.3918
KENOSHA						
SITE 001	75	LD	LD	.6765	1.1990	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.8771	.6564	LD	.7586	.7303
MILWAUKEE						
SITE 001	75	1.0908	.6104	.9550	1.5163	1.0982
MILWAUKEE						
SITE 009	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.6027	.4006	.5178	.9918	.6157
SUPERIOR						
SITE 001	75	.2070	.1741	LD	.5388	.3071
WYOMING						
CASPER						
SITE 001	75	LD	LD	.1473	LD	
CHEYENNE						
SITE 001	75	LD	.2726	.3904	.4312	.3644
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

POLLUTANT : 12128 - LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .1;7A9
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 14 PRECISION (%) +- 26

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PI						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 035	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PARK						
SITE 002	75	LD	LD	LD	LD	
OKLAHOMA						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.9177	
FLORIDA						
HARDEE CO						
SITE 001	75	.1628	LD	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	LD	LD	LD	LD	
HAWAII VOLCANOES NP						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	2.5360	1.8922	2.1356	LD	2.1870
INDIANA						
MONROE CO						
SITE 001	75	LD	LD	.2305	.2574	
PARKE CO						
SITE 001	75	LD	LD	LD	LD	
LOGANSVILLE PAR						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.1484	.1344	LD	LD	
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.1342	LD	.2430	
MISSISSIPPI						
JACKSON CO						
SITE 001	75	LD	.1365	LD	.1917	
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	LD	LD	LD	LD	
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	.1484	LD	
FORT HOWES						
SITE 008	75	LD	LD	LD	LD	
ASHLAND						
SITE 026	75	LD	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	LD	LD	LD	LD	
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.1785	LD	.2480	.2457	.2241
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.1312	.1419	LD	LD	
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	.4871	LD	.8711	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	1.5975	.6031	.9866	.7918	.9773
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	1.7663	1.3014	.7461	1.4417	1.1111
OREGON						
CURRY CO						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.1436	LD	LD	LD	
INDIANA CO						
SITE 002	75	.1308	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	1.4106	LD	1.0822	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.2655	LD	.1796	.3177	.2509
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	.1442	LD	.1558	.2081	.1904
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	.1604	LD	.1541	LD	
TEXAS						
MATAGORDA CO						
SITE 001	75	LD	LD	LD	LD	
TOM GREEN CO						
SITE 001	75	LD	LD	LD	LD	
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.2586	.2149	.2207	LD	.2342
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	LD	LD	.1827	.3100	
WYTHE CO						
SITE 001	75	.1332	LD	LD	.1618	
WASHINGTON						
KING CO						
SITE 002	75	.3084	.4123	.4480	.4307	.4501

POLLUTANT : 12128 - LEAD
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
PB

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .01749
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 14 PRECISION (%) +- 7A

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
DOOR CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PA						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PA						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	.2295	.2282	LD	
ST CROIX						
SITE 004	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12132 = MANGANESE
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 29 PRECISION (R) +- 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	.0367	.0277	.0470	LD	.0371
GADSDEN						
SITE 001	75	.0357	.0345	.0317	LD	.0346
HUNTSVILLE						
SITE 001	75	.0184	LD	.0139	.0177	.0168
MOBILE						
SITE 001	75	.0322	.0243	LD	.0294	.0286
MONTGOMERY						
SITE 001	75	.0076	.0106	.0132	.0134	.0110
ALASKA						
ANCHORAGE						
SITE 003	75	LD	.0592	.0281	.0381	.0418
FAIRBANKS						
SITE 001	75	.0087	LD	LD	.0076	
ARIZONA						
DOUGLAS						
SITE 004	75	.0339	.0303	.0161	.0222	.0255
PHOENIX						
SITE 002	75	.0630	.0530	LD	.0458	.0606
TUCSON						
SITE 001	75	.0273	.0248	.0184	.0377	.0271
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	.0198	.0222	.0234	.0144	.0200
TEXARKANA						
SITE 001	75	.0205	.0095	LD	.0114	.0138
WEST MEMPHIS						
SITE 001	75	.0421	.0440	.0282	LD	.0381
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	.0281	.0351	.0294	.0292	.0305
BERKELEY						
SITE 001	75	.0140	.0053	.0107	.0140	.0112
BURBANK						
SITE 002	75	.0402	.0153	.0251	.0459	.0316
FRESNO						
SITE 002	75	.0314	.0246	.0490	.0249	.0330
GLENDALE						
SITE 001	75	LD	LD	.0224	.0315	
LONG BEACH						
SITE 001	75	.0348	.0242	.0274	.0312	.0299
LOS ANGELES						
SITE 001	75	LD	.0235	.0200	.0404	.0280
OAKLAND						
SITE 001	75	.0192	.0193	.0177	.0280	.0213
ONTARIO						
SITE 001	75	.0588	LD	LD	LD	
PASADENA						
SITE 002	75	.0218	.0175	.0189	.0242	.0206
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	---
SACRAMENTO						
SITE 001	75	.0083	.0091	.0142	.0093	.0107
SAN BERNARDINO						
SITE 001	75	.0287	.0542	.0640	.0385	.0464
SAN DIEGO						
SITE 004	75	.0405	.0413	.0190	.0297	.0324
SAN FRANCISCO						
SITE 001	75	.0136	.0109	.0076	.0075	.0098

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	.0225	.0221	.0248	.0245	.0235
SANTA ANA						
SITE 001	75	.0181	.0287	.0204	.0244	.0230
TORRANCE						
SITE 001	75	.0491	.0304	.0135	.0241	.0293
COLORADO						
DENVER						
SITE 001	75	LD	.0276	.0604	LD	
DENVER						
SITE 002	75	.1019	.0394	.0339	.0278	.0643
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	.0270	.0201	.0127	.0192	.0198
HARTFORD						
SITE 002	75	.0250	.0186	.0108	.0123	.0167
NEW HAVEN						
SITE 001	75	.0323	.0254	.0189	.0176	.0229
WATERBURY						
SITE 001	75	.0345	.0379	.0271	.0177	.0293
WATERBURY						
SITE 123	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.0308	.0400	.0360	.0210	.0319
WILMINGTON						
SITE 002	75	.0675	LD	.0483	.0294	.0485
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	.0278	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.0138	.0164	.0154	.0184	.0160
MIAMI						
SITE 002	75	.0070	.0097	.0070	.0054	.0073
ST PETERSBURG						
SITE 002	75	.0131	.0095	.0057	.0050	.0083
TAMPA						
SITE 002	75	LD	LD	.0119	LD	
GEORGIA						
ATLANTA						
SITE 001	75	.0165	.0151	.0191	.0118	.0164
COLUMBUS						
SITE 001	75	.0148	.0130	.0193	.0138	.0137
SAVANNAH						
SITE 001	75	.0196	.0198	.0185	.0195	.0181
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.0067	.0080	.0059	.0065	.0067
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	.0330	.0208	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.0392	.0972	.0748	.0703
EAST ST LOUIS						
SITE 001	75	LD	LD	.0854	.0491	
JOLIET						
SITE 001	75	.0369	LD	.0467	.0319	.0382
MOLINE						
SITE 001	75	.0524	.0553	.0535	.0534	.0537

POLLUTANT : 12132 - MANGANESE
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

UPRAP
MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 29 PRECISION (S) +- 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	.0231	LD	.0390	.0332	.0318
PEORIA						
SITE 001	75	.0316	.0909	.1188	.0703	.0779
ROCKFORD						
SITE 001	75	.0221	.0230	LD	.0515	.0322
ROCK ISLAND						
SITE 001	75	.0344	.0637	.0534	.0613	.0507
SPRINGFIELD						
SITE 001	75	.0151	.0384	LD	.0367	.0267
INDIANA						
EAST CHICAGO						
SITE 001	75	.2140	.3294	LD	.3651	.3025
EVANSVILLE						
SITE 001	75	.0360	.0201	.0668	.1086	.0579
FORT WAYNE						
SITE 002	75	LD	.0208	LD	.0343	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.1462	LD	.1388	.1776	.1539
HAMMOND						
SITE 002	76	.2159	.1009	.1471	.1086	.1431
INDIANAPOLIS						
SITE 001	75	.0251	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.0210	.0260	LD	
NEW ALBANY						
SITE 002	75	LD	LD	.0346	.0304	
SOUTH BEND						
SITE 002	75	.0364	.0374	.0465	.0321	.0381
TERRE HAUTE						
SITE 001	75	.0178	.0368	.0657	.0353	.0389
IOWA						
CEDAR RAPIDS						
SITE 018	75	.0401	.0699	.0543	.0943	.0650
DAVENPORT						
SITE 001	75	.0347	LD	.0525	.0508	.0457
DES MOINES						
SITE 001	75	.0241	.0390	.0450	.0415	.0374
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	.0156	.0216	.0240	.0130	.0186
DUBUQUE						
SITE 008	75	.0228	.0267	.0312	.0290	.0274
WATERLOO						
SITE 004	75	.0303	.0372	.0372	.0490	.0384
WATERLOO						
SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	.0367	LD	.0341	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.0311	.0274	.0386	.0341	.0328
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	.0180	.0197	.0212	.0294	.0191

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	.0102	.0108	.0182	.0190	.0146
KENTUCKY						
ASHLAND						
SITE 002	75	.0671	.0462	.0393	.0449	.0514
BOWLING GREEN						
SITE 001	75	LD	.0127	.0149	.0084	.0120
COVINGTON						
SITE 001	75	.0230	.0264	.0570	LD	.0361
LEXINGTON						
SITE 001	75	.0245	.0331	LD	LD	
LOUISVILLE						
SITE 002	75	.0180	.0255	.0373	.0162	.0230
LOUISIANA						
BATON ROUGE						
SITE 002	76	.0093	.0122	.0145	.0120	.0120
IBERVILLE PAR						
SITE 002	75	.0118	LD	.0048	.0089	.0082
NEW ORLEANS						
SITE 002	75	.0180	.0140	.0114	.0137	.0143
SHREVEPORT						
SITE 001	75	.0470	.0345	.0291	.0498	.0401
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.0137	
MARYLAND						
BALTIMORE						
SITE 001	75	.0637	.0638	.0360	.1030	.0661
MASSACHUSETTS						
BOSTON						
SITE 001	75	.0226	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	.0165	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	76	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	.0125	
WORCESTER						
SITE 004	75	LD	LD	.0130	.0138	
MICHIGAN						
DEARBORN						
SITE 001	75	.1961	LD	.1130	.0805	.1337
DETROIT						
SITE 001	75	.0747	.0929	.0776	.1162	.0902
FLINT						
SITE 008	75	.0857	LD	LD	.0265	
GRAND RAPIDS						
SITE 001	75	.0322	.0291	.0504	.0361	.0345
LANSING						
SITE 001	75	.0944	.0391	.0993	LD	.0426
SAGINAW						
SITE 001	75	.0214	.0360	.0380	.0434	.0347
TRENTON						
SITE 008	75	LD	LD	.0372	.0695	
MINNESOTA						
DULUTH						
SITE 001	75	.0359	LD	.0965	.0942	.0349
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12132 - MANGANESE
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DATA TYPE : QUARTERLY COMPOSITE

URBAN MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (0) 29 PRECISION (0) +- 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 027	75	.0371	.0228	.0490	.0407	.0374
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	.0420	LD	.0498	.0436	.0435
MISSISSIPPI						
JACKSON						
SITE 002	75	.0156	LD	.0164	.0242	.0190
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.0227	.0365	LD	
ST LOUIS						
SITE 001	75	.0629	.0553	.0571	.0364	.0529
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.0103	.0246	
NEBRASKA						
LINCOLN						
SITE 002	75	.0147	.0230	.0185	.0326	.0222
OMAHA						
SITE 001	75	.0238	LD	LD	LD	
OMAHA						
SITE 030	75	LD	.0158	.0362	.0524	.0411
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	.0223	.0173	.0189	.0239	.0206
RENO						
SITE 001	75	.042A	.0168	.0190	.0458	.0311
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.0111	LD	LD	.0088	
NEW JERSEY						
BAYONNE						
SITE 001	75	.0215	LD	.0193	.0256	.0221
CAMDEN						
SITE 001	75	.0443	.1261	.0534	.1044	.0826
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.0143	.0180	.0302	.0208
ELIZABETH						
SITE 002	75	.0149	.0228	.0163	.0269	.0202
GLASSBORO						
SITE 001	75	.0215	.0098	.0153	.0129	.0149
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0279	LD	.0233	.0209	.0240
NEWARK						
SITE 001	75	.0235	LD	.0181	.0251	.0222
PATERSON						
SITE 001	75	.0267	LD	.0190	LD	
PERTH AMBOY						
SITE 001	75	.0196	LD	.0264	.0249	.0237
TRENTON						
SITE 001	75	.0240	.0187	.0336	.0288	.0263
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.0140	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.0176	.0181	.0137	.0161	.0164
BUFFALO						
SITE 001	75	.0367	.0482	.0376	.0491	.0417
NEW YORK CITY						
SITE 014	75	.0232	.0337	.0207	.0260	.0282
NIAGARA FALLS						
SITE 001	75	.1433	.1542	.1030	.1337	.1336
ROCHESTER						
SITE 001	75	.0176	.0267	.0291	.0231	.0241
SYRACUSE						
SITE 001	75	.0260	LD	.0301	.0267	.0276
UTICA						
SITE 001	75	.0643	.0837	.0346	.0492	.0542
YONKERS						
SITE 001	75	.0177	.0383	.0343	.0310	.0303
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.0082	.0137	.0084	.0130	.0108
DURHAM						
SITE 001	75	LD	.0177	.0181	LD	
DURHAM						
SITE 006	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.0197	.0182	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	.0122	
WINSTON-SALEM						
SITE 002	75	.0117	.0183	.0185	.0238	.0180
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.0350	LD	LD	LD	
OHIO						
AKRON						
SITE 014	75	.0715	.0470	.0584	.0495	.0561
CANTON						
SITE 001	75	.1406	.1247	.1697	LD	.1427
CINCINNATI						
SITE 001	75	.0252	.0365	.0462	.0188	.0362
CLEVELAND						
SITE 001	76	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.0290	.0442	.0438	.0303	.0368
DAYTON						
SITE 001	75	.0264	.0305	.0340	.0443	.0341
IRONTON						
SITE 009	75	.0274	.0364	.0433	.0299	.0516
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	.0275	.0501	.0491	LD	.0449
STEUBENVILLE						
SITE 012	75	LD	LD	.1265	.7229	
TOLEDO						
SITE 001	75	.0403	.0318	.0367	LD	.0359
YOUNGSTOWN						
SITE 001	75	.0563	.0857	.1043	.1837	.0980
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	.0083	LD	LD	LD	
TULSA						
SITE 110	75	.0208	.0329	.0315	LD	.0284
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12132 - MANGANESE
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URBAN
MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 29 PRECISION (%) +- 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	LD	.0748	.0580	.0260	.0526
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.0414	.0300	.0188	.0292	.0300
ALTOONA						
SITE 001	75	.0417	LD	.0345	.0219	.0300
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	LD	.0401	.0344	.0540	.0496
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 161	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.0524	LD	LD	.0314	
JOHNSTOWN						
SITE 003	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	.0807	
PHILADELPHIA						
SITE 004	75	.0578	.0595	.0306	.0339	.0454
PITTSBURGH						
SITE 001	75	.1376	.0805	.1019	.1199	.1100
READING						
SITE 001	75	LD	LD	.0202	LD	LD	
SCRANTON						
SITE 001	75	.1709	.0774	.0627	LD	.1053
WARMINSTER						
SITE 002	75	.0186	.0291	.0384	LD	.0287
WEST CHESTER						
SITE 110	75	.0176	.0165	.0165	.0740	.0184
WILKES-BARRE						
SITE 001	75	.0356	.0399	.0258	.0366	.0332
YORK						
SITE 327	75	.0418	.0819	.0344	LD	.0392
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0122	.0177	.0348	.0094	.0190
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
ARFLTA						
SITE 001	75	.0204	LD	.0282	.0149	.0209
PONCE						
SITE 002	75	.0112	LD	.0297	.0274	.0228
SEMANA SECA						
SITE 001	75	.0354	.0255	.0258	.0249	.0279
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	.0192	.0219	.0285	.0172	.0217
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0173	.0173	.0112	LD	.0153
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.0254	LD	.0127	.0160	.0172
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.0245	.0327	.0090	.0371	.0252
GREENVILLE						
SITE 001	75	.0135	.0107	.0070	.0078	.0088
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	.0760	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.0343	.0908	.0511	.1117	.0595
KNOXVILLE						
SITE 002	75	.0232	.0273	.0272	.0308	.0272
MEMPHIS						
SITE 001	75	.0207	.0286	.0384	.0387	.0292
NASHVILLE						
SITE 001	75	.0402	.0443	.0403	LD	.0443
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	.0080	.0094	.0082	LD	.0080
BEAUMONT						
SITE 001	75	LD	LD	.0215	LD	
CORPUS CHRISTI						
SITE 001	75	.0213	LD	.0180	.0156	.0163
DALLAS						
SITE 002	75	.0356	.0398	.0976	.0426	.0619
EL PASO						
SITE 002	75	.0871	.0509	.0303	.0258	.0535
FORT WORTH						
SITE 001	75	.0140	.0158	.0234	.0973	.0206
HOUSTON						
SITE 001	75	.0371	.0331	.0965	.0438	.0399
LUBBOCK						
SITE 001	75	.0135	LD	.0204	.0360	.0233
PASADENA						
SITE 002	75	.0651	.1172	LD	.0453	.0792
SAN ANTONIO						
SITE 019	75	.0100	.0087	.0107	.0100	.0101
WICHITA FALLS						
SITE 002	75	.0334	.0436	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	LD	.0194	.0231	.0397	.0295
SALT LAKE CITY						
SITE 001	75	.0332	.0156	.0202	.0426	.0279
VERMONT						
BURLINGTON						
SITE 003	75	.0193	.0949	.0214	.0173	.0268
VIRGINIA						
DANVILLE						
SITE 001	75	.0093	.0117	LD	.0124	.0112
HOPEWELL						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0368	.0177	.0124	.0153	.0206
LYNCHBURG						
SITE 001	75	.0338	.0371	LD	.0188	.0509
LYNCHBURG						
SITE 002	75	LD	LD	.0383	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12132 - MANGANESE
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MICRO METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 29 PRECISION (R) +- 29

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.0217	.0066	.0173	.0152
PORTSMOUTH						
SITE 001	75	.0296	LD	LD	.0181	
RICHMOND						
SITE 002	75	.0183	.0231	.0217	.0194	.0193
ROANOKE						
SITE 003	76	.0139	LD	.0188	.0186	.0170
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.0256	.0193	.0213	.0221
SPOKANE						
SITE 001	75	LD	.0237	.0488	.0149	.0288
TACOMA						
SITE 001	75	.0128	.0169	.0158	.0141	.0168
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	.0512	.0948	.0567	.2081	.0907
HUNTINGTON						
SITE 005	75	.1778	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.0313	.0227	.0253	.0804	.0399
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.0100	.0249	.0303	.0176	.0207
KENOSHA						
SITE 001	75	LD	LD	.0392	.0592	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.0201	.0204	LD	.0201	.0202
MILWAUKEE						
SITE 001	75	.0654	.0348	.0652	.0784	.0609
MILWAUKEE						
SITE 009	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0590	.0303	.0400	.0692	.0494
SUPERIOR						
SITE 001	75	.0360	.0693	LD	.0672	.0558
WYOMING						
CASPER						
SITE 001	75	.0104	.0171	.0184	.0113	.0127
CHEYENNE						
SITE 001	75	LD	.0050	.0119	.0080	.0081
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

POLLUTANT : 12132 - MANGANESE
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) = .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 20 PRECISION (%) = 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PA						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 005	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	.0080	.0049	.0042	.0057
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PARK						
SITE 002	75	.0029	LD	.0045	LD	
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.0187	
FLORIDA						
MONROE CO						
SITE 001	75	.0057	.0046	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	LD	.0258	LD	LD	
HAWAII VOLCANOES N						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
WHITE CO						
SITE 001	75	LD	.0331	.0081	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	.0701	.0434	.0434	LD	.0540
INDIANA						
MONROE CO						
SITE 001	75	LD	.0142	.0294	.0400	.0282
PARKE CO						
SITE 001	75	LD	.0145	LD	LD	
INDIANAPOLIS PAP						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.0076	.0105	LD	.0044	.0075
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.0091	.0101	.0084	.0094
MISSISSIPPI						
JACKSON CO						
SITE 001	75	.0028	.0051	LD	.0090	.0056
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	.0033	.0080	.0134	.0106	.0089
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	.0058	LD	
FORT HOWES						
SITE 008	75	LD	LD	.0060	.0047	
ASHLAND						
SITE 026	75	.0032	LD	LD	?	
NEBRASKA						
THOMAS CO						
SITE 001	75	.0046	.0041	.0106	LD	.0071

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	.0115	.0063	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.0069	.0085	.0100	.0088	.0106
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.0116	.0259	.0110	LD	.0162
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 001	75	.0201	LD	.0284	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	.0265	.0177	.0301	.0393	.0267
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	.0263	.0272	.0332	.0377	.0311
OREGON						
CURRY CO						
SITE 001	75	LD	.0047	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.0182	LD	LD	LD	
INDIANA CO						
SITE 002	75	.0309	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	.0505	LD	.0342	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.0044	LD	.0048	.0068	.0047
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	.0050	.0041	.0037	.0074	.0056
SOUTH DAKOTA						
BLACK HILLS NAT PA						
SITE 001	75	LD	LD	.0060	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	.0105	.0101	.0151	.0083	.0110
TEXAS						
MATAGORDA CO						
SITE 001	75	.0044	.0049	.0100	.0033	.0062
TOM GREEN CO						
SITE 001	75	LD	.0107	.0052	.0077	.0077
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.0204	.0140	.0132	LD	.0159
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	.0033	LD	.0032	.0054	.0040
WYTHE CO						
SITE 001	75	.0058	LD	.0038	.0054	.0050
WASHINGTON						
KING CO						
SITE 002	75	.0043	.0129	.0096	.0026	.0077

POLLUTANT : 12132 - MANGANESE
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
MN

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0025
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 20 PRECISION (%) +- 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
DOOR CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PA						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PA						
SITE 001	75	LD	.0039	.0055	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	.0393	.0258	LD	
ST CROIX						
SITE 209	75	LD	.0080	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12136 - NICKEL
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : USG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

UPPER
NI

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0001
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	LD	LD	.0114	LD	
CARSON						
SITE 001	75	LD	LD	LD	LD	
HUNTSVILLE						
SITE 001	75	LD	LD	LD	.0008	
MOBILE						
SITE 001	75	LD	LD	LD	LD	
MONTGOMERY						
SITE 001	75	LD	LD	LD	LD	
ALASKA						
ANCHORAGE						
SITE 003	75	LD	LD	LD	LD	
FAIRBANKS						
SITE 001	75	.0266	LD	LD	LD	
ARIZONA						
DOUGLAS						
SITE 004	75	.0293	LD	LD	LD	
PHOENIX						
SITE 003	75	.0133	LD	LD	.0134	
TUCSON						
SITE 001	75	.0174	LD	LD	LD	
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	LD	LD	LD	LD	
TEXARKANA						
SITE 001	75	LD	.0173	LD	LD	
WEST MEMPHIS						
SITE 001	75	.0145	LD	LD	LD	
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	.0216	.0170	.0421	.0270	.0279
BERKELEY						
SITE 001	75	LD	LD	LD	.0165	
BURBANK						
SITE 002	75	.0324	LD	.0283	.0324	.0327
FRESNO						
SITE 002	75	LD	LD	LD	.0137	
GLENDALE						
SITE 001	75	LD	LD	.0222	.0317	
LONG BEACH						
SITE 001	75	.0309	.0215	.0525	.0312	.0376
LOS ANGELES						
SITE 001	75	LD	.0194	.0214	.0311	.0247
OAKLAND						
SITE 001	75	.0110	LD	.0098	.0101	.0133
ONTARIO						
SITE 001	75	.0357	LD	LD	LD	
PASADENA						
SITE 002	75	.0228	.0258	.0318	.0194	.0250
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	LD	LD	LD	.0165	
SAN BERNARDINO						
SITE 001	75	.0241	.0232	.0229	.0214	.0228
SAN DIEGO						
SITE 004	75	.0153	.0108	.0105	.0139	.0122
SAN FRANCISCO						
SITE 001	75	.0114	LD	LD	.0141	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	.0118	LD	LD	.0179	
SANTA ANA						
SITE 001	75	.0145	.0171	.0231	.0188	.0209
TORRANCE						
SITE 001	75	.0444	.0241	.0260	.0281	.0412
COLORADO						
DENVER						
SITE 001	75	LD	LD	LD	LD	
DENVER						
SITE 002	75	LD	LD	LD	LD	
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	.0358	.0201	LD	.0979	.0229
HARTFORD						
SITE 002	75	.0198	.0170	LD	.0983	.0178
NEW HAVEN						
SITE 001	75	.0680	.0253	.0209	.0396	.0360
WATERBURY						
SITE 001	75	.0192	.0223	.0127	.0123	.0164
WATERBURY						
SITE 193	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.0217	.0148	.0108	.0178	.0148
WILMINGTON						
SITE 002	75	.0234	LD	.0202	.0191	.0304
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	.0115	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.0200	.0129	.0235	.0349	.0295
MIAMI						
SITE 002	75	.0239	.0246	.0130	.0118	.0181
ST PETERSBURG						
SITE 002	75	LD	.0084	LD	.0102	
TAMPA						
SITE 002	75	LD	LD	.0126	LD	
GEORGIA						
ATLANTA						
SITE 001	75	LD	.0121	LD	LD	
COLUMBUS						
SITE 001	75	.0136	.0092	LD	LD	
SAVANNAH						
SITE 001	75	.0165	LD	.0246	.0250	.0233
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.0369	.0961	.0518	.0417	.0901
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.0219	.0229	.0188	.0241
EAST ST LOUIS						
SITE 001	75	LD	LD	LD	LD	
JOLIET						
SITE 001	75	LD	LD	.0248	LD	
MOLINE						
SITE 001	75	.0138	.0146	.0173	LD	.0162

POLLUTANT : 12134 = NICKEL — URBAN
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE — HI
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD): .0091
95 PERCENT CONFIDENCE LIMITS
RISK (R) 2% PRECISION (P) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO SITE 002	75	.0112	LD	.0092	LD	
PEORIA SITE 001	75	LD	LD	.0166	.0154	
ROCKFORD SITE 001	75	LD	LD	LD	LD	
ROCK ISLAND SITE 001	75	.0113	LD	.0127	LD	
SPRINGFIELD SITE 001	75	LD	LD	LD	.0184	
INDIANA						
EAST CHICAGO SITE 301	75	.0418	.0773	LD	.0648	.0660
EVANSVILLE SITE 301	75	.0306	.0125	.0126	.0109	.0167
FORT WAYNE SITE 002	75	LD	.0233	LD	.0126	
FORT WAYNE SITE 003	75	LD	LD	LD	LD	
GARY SITE 001	75	.0995	LD	.0261	.0297	.0351
HAMMOND SITE 002	75	.0326	.0288	.0166	.0159	.0234
INDIANAPOLIS SITE 001	75	.0133	LD	LD	LD	
INDIANAPOLIS SITE 002	75	LD	LD	LD	LD	
MUNCIE SITE 001	75	LD	.0173	LD	LD	
NEW ALBANY SITE 002	75	LD	LD	.0181	.0168	
SOUTH BEND SITE 002	75	.0172	.0126	.0137	LD	.0145
TERRE HAUTE SITE 001	75	.0134	.0137	LD	.0288	.0187
IOWA						
CEDAR RAPIDS SITE 018	75	LD	LD	LD	.0104	
DAVENPORT SITE 001	75	LD	LD	LD	LD	
DES MOINES SITE 001	75	LD	LD	LD	LD	
DUBUQUE SITE 001	75	LD	LD	LD	LD	
DUBUQUE SITE 002	75	LD	LD	LD	LD	
DUBUQUE SITE 004	75	LD	LD	LD	LD	
WATERLOO SITE 004	75	LD	.0100	.0098	LD	
WATERLOO SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY SITE 002	75	LD	LD	LD	LD	
KANSAS CITY SITE 011	75	LD	LD	LD	LD	
KANSAS CITY SITE 012	75	.0154	LD	LD	LD	
KANSAS CITY SITE 015	75	LD	LD	LD	LD	
TOPEKA SITE 001	75	LD	LD	LD	LD	
WICHITA SITE 001	75	LD	LD	LD	LD	
KENTUCKY						
ASHLAND SITE 002	75	.0224	.0190	LD	.0093	.0170
BOWLING GREEN SITE 001	75	LD	LD	LD	LD	
COVINGTON SITE 001	75	LD	LD	LD	LD	
LEXINGTON SITE 001	75	LD	LD	LD	LD	
LOUISVILLE SITE 002	75	.0318	.0244	.0238	.0088	.0302
LOUISIANA						
BATON ROUGE SITE 002	75	LD	LD	.0184	LD	
BOGALUSA SITE 002	75	LD	LD	.0194	LD	
NEW ORLEANS SITE 002	75	LD	LD	.0270	LD	
SHREVEPORT SITE 001	75	LD	LD	LD	LD	
MAINE						
PORTLAND SITE 004	75	LD	LD	LD	.0388	
MARYLAND						
BALTIMORE SITE 001	75	.0350	.0180	.0133	.0303	.0217
MASSACHUSETTS						
BOSTON SITE 001	75	.0381	LD	LD	LD	
BOSTON SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE SITE 001	75	.0254	LD	LD	LD	
FALL RIVER SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD SITE 002	75	LD	LD	LD	.0303	
WORCESTER SITE 004	75	LD	LD	.0172	.0240	
MICHIGAN						
DEARBORN SITE 001	75	.0219	LD	.0146	.0154	.0173
DETROIT SITE 001	75	.0187	.0137	LD	.0194	.0157
FLINT SITE 008	75	.0110	LD	LD	LD	
GRAND RAPIDS SITE 001	75	LD	LD	LD	.0115	
LANSING SITE 001	75	.0139	LD	.0149	LD	
SAGINAW SITE 001	75	LD	LD	LD	LD	
TRENTON SITE 004	75	LD	LD	LD	LD	
MINNESOTA						
DULUTH SITE 001	75	LD	LD	LD	LD	
MINNEAPOLIS SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12136 - NICKEL
METHOD : XI-XRF EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
XI

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0001
95 PERCENT CONFIDENCE LIMITS
BIAS (X) 21 PRECISION (X) +- 82

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 327	75	.0173	LD	LD	LD	
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 331	75	.0172	LD	LD	.0116	
MISSISSIPPI						
JACKSON						
SITE 002	75	LD	LD	LD	LD	
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.0152	LD	LD	
ST LOUIS						
SITE 001	75	.0102	.0111	LD	.0122	.0115
ST LOUIS						
SITE 322	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	LD	.0240	
NEBRASKA						
LINCOLN						
SITE 002	75	.0128	.0120	.0152	LD	.0133
OMAHA						
SITE 301	75	LD	LD	LD	LD	
OMAHA						
SITE 030	75	LD	LD	LD	.0102	
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	LD	LD	LD	.0097	
RENO						
SITE 001	75	.0254	.0316	.0187	.0324	.0270
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.0348	LD	LD	.0181	
NEW JERSEY						
HAWTHNE						
SITE 001	75	.0241	LD	.0190	.0245	.0236
CAMDEN						
SITE 001	75	.0269	.0356	.0228	.0329	.0321
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.0150	.0136	.0227	.0171
ELIZABETH						
SITE 002	75	.0214	.0395	.0157	.0278	.0261
GLASSBORO						
SITE 001	75	.0329	.0133	.0240	.0133	.0221
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0352	LD	.0228	.0238	.0275
NEWARK						
SITE 001	75	.0172	LD	.0116	.0261	.0183
PATERSON						
SITE 001	75	.0201	LD	.0200	LD	
PERTH AMBOY						
SITE 001	75	.0136	LD	.0218	.0301	.0218
TRENTON						
SITE 001	75	.0248	.0243	.0291	.0323	.0276
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.0117	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.0414	.0279	.0202	.0145	.0315
BUFFALO						
SITE 001	75	.0127	.0153	.0118	.0220	.0149
NEW YORK CITY						
SITE 014	75	.0324	.0343	.0303	.0339	.0320
NIAGARA FALLS						
SITE 001	75	.0281	.0265	.0196	.0122	.0230
ROCHESTER						
SITE 001	75	.0123	.0137	.0119	.0095	.0116
SYRACUSE						
SITE 001	75	.0169	LD	.0109	.0124	.0131
UTICA						
SITE 001	75	.0248	.0172	.0190	.0474	.0271
YONKERS						
SITE 001	75	.0172	.0249	.0109	.0281	.0223
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.0105	LD	LD	.0137	
DURHAM						
SITE 001	75	LD	.0149	.0116	LD	
DURHAM						
SITE 006	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.0135	LD	LD	LD	
GREENSBORO						
SITE 008	75	LD	LD	LD	.0208	
WINSTON-SALEM						
SITE 002	75	LD	LD	LD	.0135	
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.0427	LD	LD	LD	
OHIO						
AKRON						
SITE 014	75	.0262	.0158	.0108	.0161	.0195
CANTON						
SITE 001	75	.0265	.0178	.0261	LD	.0228
CINCINNATI						
SITE 001	75	.0230	.0189	.0144	.0150	.0181
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.0241	.0355	.0173	.0171	.0235
DAYTON						
SITE 001	75	.0122	.0169	LD	.0093	.0128
LORAIN						
SITE 009	75	.0139	.0116	LD	.0225	.0167
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	LD	.0115	LD	LD	
STEUBENVILLE						
SITE 012	75	LD	LD	.0346	.0125	
TOLEDO						
SITE 001	75	.0165	.0144	LD	LD	
YOUNGSTOWN						
SITE 001	75	.0092	.0192	.0108	.0130	.0130
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	LD	LD	LD	LD	
TULSA						
SITE 110	75	LD	LD	LD	LD	
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12136 - NICKEL
METHOD : HI-VOL EMISSION SPECTRA MICRO FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0001
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
TONESSEE						
KINGSPORT						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	.0150	.0219	.0522	.0346
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.0274	.0251	.0098	.0221	.0211
ALTOONA						
SITE 001	75	LD	LD	LD	LD	
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	LD	LD	.0129	
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 361	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.0132	LD	LD	LD	
JOHNSTOWN						
SITE 803	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	.0203	
PHILADELPHIA						
SITE 004	75	.0372	.0316	.0153	.0345	.0297
PITTSBURGH						
SITE 001	75	.0296	.0101	.0196	.0109	.0163
READING						
SITE 001	75	LD	.0268	LD	LD	
SCRANTON						
SITE 001	75	.0195	.0157	.0410	LD	.0254
WARMINSTER						
SITE 002	75	.0411	.0558	LD	LD	
WEST CHESTER						
SITE 110	75	.0447	.0376	.0209	.0163	.0285
WILKES-BARRE						
SITE 001	75	.0429	.0111	.0581	.0127	.0312
YORK						
SITE 322	75	.0923	.0324	.0249	LD	.0513
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CAYANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0168	.0199	.0229	.0183	.0194
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	.0284	LD	.0383	.0272	.0314
PONCE						
SITE 002	75	.0103	LD	LD	.0110	
SABANA SECA						
SITE 001	75	.0170	.0089	LD	.0240	.0179
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	.0097	.0103	LD	.0110	.0103
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0298	.0155	.0153	LD	.0201

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.0604	LD	.0161	.0344	.0349
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.0098	.0094	LD	LD	
GREENVILLE						
SITE 001	75	.0092	.0124	.0100	.0098	.0105
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	.0137	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	LD	LD	.0135	.0160	
KNOXVILLE						
SITE 002	75	LD	LD	LD	.0134	
MEMPHIS						
SITE 001	75	.0127	LD	LD	LD	
NASHVILLE						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	LD	LD	LD	LD	
BEAUMONT						
SITE 001	75	LD	LD	LD	LD	
CORPUS CHRISTI						
SITE 001	75	LD	LD	LD	LD	
DALLAS						
SITE 002	75	LD	LD	LD	LD	
EL PASO						
SITE 002	75	LD	LD	LD	LD	
FORT WORTH						
SITE 001	75	LD	.0228	LD	LD	
HOUSTON						
SITE 001	75	.0194	.0406	.0311	.0282	.0286
LUBBOCK						
SITE 001	75	LD	LD	LD	.0168	
PASADENA						
SITE 002	75	.0301	.0472	LD	.0229	.0501
SAN ANTONIO						
SITE 039	75	LD	LD	LD	LD	
WICHITA FALLS						
SITE 002	75	LD	LD	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	LD	LD	.0132	
SALT LAKE CITY						
SITE 001	75	.0092	LD	.0131	.0105	.0109
VERMONT						
BURLINGTON						
SITE 003	75	.0198	.0198	LD	.0186	.0177
VIRGINIA						
DANVILLE						
SITE 001	75	.0179	.0135	LD	LD	
HOPEWELL						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0191	.0149	.0119	.0132	.0148
LYNCHBURG						
SITE 001	75	LD	LD	LD	.0126	
LYNCHBURG						
SITE 002	75	LD	LD	LD	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12136 - NICKEL
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0001
95 PERCENT CONFIDENCE LIMITS
BIAS (+) 3% PRECISION (+) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.0140	.0127	.0332	.0206
PORTSMOUTH						
SITE 001	75	.0331	LD	LD	.0236	
RICHMOND						
SITE 002	75	.0334	.0109	.0222	.0341	.0302
ROANOKE						
SITE 003	75	LD	LD	LD	LD	
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.0159	LD	.0938	
SPOKANE						
SITE 001	75	LD	LD	LD	.0222	
TACOMA						
SITE 001	75	.0266	.0127	LD	.0352	.0250
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
HUNTINGTON						
SITE 005	75	.0678	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.0105	.0158	LD	LD	
KENOSHA						
SITE 001	75	LD	LD	.0134	.0303	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.0120	LD	LD	LD	
MILWAUKEE						
SITE 001	75	.0345	.0193	LD	.0151	.0180
MILWAUKEE						
SITE 009	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0105	.0093	LD	.0340	.0186
SUPERIOR						
SITE 001	75	.0194	.0202	LD	.0193	.0180
WYOMING						
CASPER						
SITE 001	75	LD	LD	LD	.0141	
CHEYENNE						
SITE 001	75	LD	.0111	.0117	.0103	.0110
VIRGIN ISLANDS						
ST CROIX						
SITE 004	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12136 - NICKEL
METHOD : HI-VOL EMISSION SPECTRO MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0001
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 21 PRECISION (R) +- 52

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PA						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 006	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PAR						
SITE 002	75	LD	LD	LD	LD	
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.0196	
FLORIDA						
HARDEE CO						
SITE 001	75	LD	LD	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	LD	LD	LD	LD	
HAWAII VOLCANOES NA						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	.0617	.0274	.0245	LD	.0379
INDIANA						
MONROE CO						
SITE 001	75	LD	LD	LD	LD	
PARKE CO						
SITE 001	75	LD	LD	LD	LD	
INDEPENDENCE PAR						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.0366	.0234	LD	LD	
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.0253	LD	LD	
MISSISSIPPI						
JACKSON CO						
SITE 001	75	LD	LD	LD	.0106	
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	LD	LD	.0221	LD	
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	LD	LD	
FORT HOWES						
SITE 008	75	LD	LD	LD	LD	
ASHLAND						
SITE 026	75	.0121	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	76	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.0183	LD	.1084	.0137	.0647
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.0139	LD	LD	LD	
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
BUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	.0561	LD	.0185	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	LD	LD	.0199	.0180	
OREGON						
CURRY CO						
SITE 001	76	LD	LD	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	LD	LD	LD	LD	
INDIANA CO						
SITE 002	75	.0125	LD	LD	LD	
PHILADELPHIA						
SITE 002	76	.0332	LD	.0173	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	LD	LD	LD	.0071	
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	LD	LD	LD	.0138	
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	.0095	LD	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
MATAGORDA CO						
SITE 001	75	LD	LD	LD	LD	
TOM GREEN CO						
SITE 001	75	LD	LD	LD	LD	
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.0194	.0239	.0164	LD	.0196
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	LD	LD	LD	LD	
WYTHE CO						
SITE 001	75	LD	LD	LD	LD	
WASHINGTON						
KING CO						
SITE 002	75	LD	LD	LD	LD	

POLLUTANT : 12136 - NICKEL
METHOD : HI-VOL EMISSION SPECTOG GRAPHITE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0001
95 PERCENT CONFIDENCE LIMITS
BIAS (+) 21 PRECISION (+) +- 22

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
PAPAGO CO						
SITE 001	76	LD	LD	LD	LD	LD
ARKANSAS						
CRAIG TETON NAT PAR						
SITE 001	76	LD	LD	LD	LD	LD
YELLOWSTONE NAT PAR						
SITE 001	76	LD	LD	.0220	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	76	LD	.0132	.0110	LD	
ST CROIX						
SITE 004	76	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12161 - TITANIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0034
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 42 PRECISION (P) +- 54

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	.0143	.0150	.0182	LD	.0158
GADSDEN						
SITE 001	75	.0189	.0207	.0215	LD	.0204
HUNTSVILLE						
SITE 001	75	.0118	LD	.0086	.0090	.0098
MOBILE						
SITE 001	75	.0178	.0230	LD	.0246	.0214
MONTGOMERY						
SITE 001	75	.0074	.0193	.0197	.0138	.0119
ALASKA						
ANCHORAGE						
SITE 003	75	LD	.1643	.0763	.1010	.1139
FAIRBANKS						
SITE 001	75	.0269	LD	LD	.0267	
ARIZONA						
DOUGLAS						
SITE 004	75	.0474	.0494	.0206	.0369	.0412
PHOENIX						
SITE 002	75	.1197	.1083	LD	.1196	.1155
TUCSON						
SITE 001	75	.0392	.0497	.0336	.0542	.0420
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	.0275	.0299	.0310	.0198	.0271
TEXARKANA						
SITE 001	75	.0841	.0075	LD	.0095	.0337
WEST MEMPHIS						
SITE 001	75	.0919	.0358	.0195	LD	.0491
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	.0672	.0556	.0714	.0765	.0677
BERKELEY						
SITE 001	75	.0923	.0105	.0147	.0155	.0333
BURBANK						
SITE 002	75	.0999	.0523	.0741	.1073	.0834
FRESNO						
SITE 002	75	.1291	.0749	.1696	.0746	.1112
GLENDALE						
SITE 001	75	LD	LD	.0584	.0791	
LONG BEACH						
SITE 001	75	.0688	.0548	.0607	.0740	.0650
LOS ANGELES						
SITE 001	75	LD	.0561	.0485	.0877	.0641
OAKLAND						
SITE 001	75	.0142	.0192	.0218	.0282	.0209
ONTARIO						
SITE 001	75	.1192	LD	LD	LD	
PASADENA						
SITE 002	75	.0861	.0375	.0500	.0538	.0566
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	.0514	.0250	.0330	.0196	.0323
SAN BERNARDINO						
SITE 001	75	.1016	.1073	.1562	.0843	.1124
SAN DIEGO						
SITE 004	75	.0612	.0519	.0259	.0833	.0456
SAN FRANCISCO						
SITE 001	75	.0598	.0196	.0152	.0123	.0267
SAN JOSE						
SITE 004	75	.0877	.0418	.0971	.0349	.0678
SANTA ANA						
SITE 001	75	.0432	.0437	.0667	.0652	.0572
TORRANCE						
SITE 001	75	.0701	.0723	.0791	.0486	.0567
COLORADO						
DENVER						
SITE 001	75	LD	.0344	.1033	LD	
DENVER						
SITE 002	75	.1768	.0716	.0599	.1436	.1140
CONNECTICUT						
BRIDGEPORT						
SITE 001	75	.1356	.0314	.0220	.0955	.0536
HARTFORD						
SITE 002	75	.0540	.0313	.0152	.0184	.0300
NEW HAVEN						
SITE 001	75	.0932	.0356	.0274	.0987	.0483
WATERBURY						
SITE 001	75	.0709	.0599	.0508	.0318	.0555
WATERBURY						
SITE 133	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.0358	.0399	.0866	.0318	.0485
WILMINGTON						
SITE 002	75	.0410	LD	.0273	.0479	.0420
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	.0348	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.0140	.0299	.0143	.0169	.0170
MIAMI						
SITE 002	75	.0062	.0120	.0084	.0056	.0080
ST PETERSBURG						
SITE 002	75	.0127	.0175	.0092	.0070	.0099
TAMPA						
SITE 002	75	LD	LD	.0131	LD	
GEORGIA						
ATLANTA						
SITE 001	75	.0223	.0256	.0272	.0226	.0244
COLUMBUS						
SITE 001	75	.0156	.0184	.0192	.0196	.0182
SAVANNAH						
SITE 001	75	.0322	.0360	.0366	.0409	.0369
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.0431	.0520	.0996	.0438	.0471
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	.0979	.0617	
ILLINOIS						
ALUF ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.0259	.0809	.0308	.0365
EAST ST LOUIS						
SITE 001	75	LD	LD	.0621	.0498	
JOLIET						
SITE 001	75	.0403	LD	.0249	.0172	.0275
PEORIA						
SITE 001	75	.0179	.0291	.0229	.0156	.0211

POLLUTANT : 12161 - TITANIUM
METHOD : OPTICAL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .003A
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 42 PRECISION (P) +- 54

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 003	75	.0169	LD	.0204	.0087	.0153
PEORIA						
SITE 001	75	.0273	.1057	.1047	.0500	.0719
ROCKFORD						
SITE 001	75	.0342	.0152	LD	.0114	.0203
ROCK ISLAND						
SITE 001	75	.0084	.0281	.0311	.0190	.0407
SPRINGFIELD						
SITE 001	75	.0224	.0211	LD	.0247	.0227
INDIANA						
EAST CHICAGO						
SITE 001	75	.0384	.0972	LD	.0360	.0912
EVANSVILLE						
SITE 001	75	.0307	.0143	.0283	.0153	.0227
FORT WAYNE						
SITE 002	75	LD	.0135	LD	.0147	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.1023	LD	.0494	.0915	.0649
HAMMOND						
SITE 002	75	.0453	.0391	.0449	.0719	.0399
INDIANAPOLIS						
SITE 001	75	.0243	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	.0284	.0350	LD	
NEW ALBANY						
SITE 002	75	LD	LD	.0202	.0170	
SOUTH BEND						
SITE 002	75	.0354	.0211	.0239	.0194	.0238
TERRE HAUTE						
SITE 001	75	.0184	.0320	.0360	.0230	.0274
IOWA						
CEDAR RAPIDS						
SITE 018	75	.0291	.0242	.0211	.0208	.0238
DAVENPORT						
SITE 001	75	.0491	LD	.0217	.0213	.0304
DES MOINES						
SITE 001	75	.0184	.0239	.0237	.0232	.0223
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	.0144	.0140	.0141	.0085	.0128
DUBUQUE						
SITE 004	75	.0125	.0149	.0127	.0150	.0145
WATERLOO						
SITE 004	75	.1219	.1105	.0211	.0227	.0703
WATERLOO						
SITE 006	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	.0236	LD	.0249	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.0446	.0283	.0467	.0316	.0373
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	.0382	.0183	.0128	.0143	.0198

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	.0195	.0115	.0224	.0218	.0249
KENTUCKY						
ASHLAND						
SITE 002	75	.0389	.0376	.0248	.0287	.0329
BOWLING GREEN						
SITE 001	75	LD	.0179	.0043	.0078	.0090
COVINGTON						
SITE 001	75	.0232	.0148	.0352	LD	.0261
LEXINGTON						
SITE 001	75	.1219	.1087	LD	LD	
LOUISVILLE						
SITE 002	75	.0143	.0203	.0291	.0158	.0184
LOUISIANA						
BATON ROUGE						
SITE 002	75	.0080	.0110	.0190	.0098	.0104
JEFFVILLE PAR						
SITE 002	75	.0849	LD	.0073	.0078	.0372
NEW ORLEANS						
SITE 002	75	.0120	.0097	.0135	.0092	.0111
SHREVEPORT						
SITE 001	75	.0123	.0207	.0208	.0233	.0182
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.0411	
MARYLAND						
BALTIMORE						
SITE 001	75	.0377	.0355	.0284	.0443	.0368
MASSACHUSETTS						
BOSTON						
SITE 001	75	.0413	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	.0430	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	.0208	
WORCESTER						
SITE 004	75	LD	LD	.0204	.0280	
MICHIGAN						
DEARBORN						
SITE 001	75	.0723	LD	.0335	.0238	.0447
DETROIT						
SITE 001	75	.0625	.0453	.0350	.0386	.0483
FLINT						
SITE 008	75	.0231	LD	LD	.0127	
GRAND RAPIDS						
SITE 001	75	.0222	.0291	.0308	.0183	.0241
LANSING						
SITE 001	75	.0269	.0211	.0308	LD	.0277
SAGINAW						
SITE 001	75	.0151	.0216	.0217	.0131	.0179
TAYMOUTH						
SITE 004	75	LD	LD	.0292	.0140	
MINNESOTA						
DULUTH						
SITE 001	75	.0084	LD	.0510	.0078	.0410
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : [21A] - TITANIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

UPPER 95 PERCENT CONFIDENCE LIMITS
ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0014
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 42 PRECISION (R) +- 84

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 009	75	.0216	.0231	.0373	.0254	.0268
MOORHEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 001	75	.0319	LD	.0367	.0334	.0339
MISSISSIPPI						
JACKSON						
SITE 002	75	.0140	LD	.0121	.0154	.0134
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.0230	.0293	LD	
ST LOUIS						
SITE 001	75	.1041	.1726	.1143	.0922	.1718
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	.0829	.0319	
NEBRASKA						
LINCOLN						
SITE 002	75	.0540	.0241	.0188	.0274	.0321
OMAHA						
SITE 001	75	.1366	LD	LD	LD	
OMAHA						
SITE 030	75	LD	.0307	.0334	.0581	.0425
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	.0450	.0492	.0231	.0245	.0342
RENO						
SITE 001	75	.1229	.0399	.0480	.1226	.0833
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.1229	LD	LD	.0183	
NEW JERSEY						
BAYONNE						
SITE 001	75	.0560	LD	.0354	.0380	.0434
CAMDEN						
SITE 001	75	.0403	.0613	.0497	.0462	.0481
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.0928	.0219	.0317	.0486
ELIZABETH						
SITE 002	75	.0306	.0275	.0321	.0404	.0327
GLASSBORO						
SITE 001	75	.0588	.0136	.0227	.0156	.0277
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0313	LD	.0965	.0390	.0383
NEWARK						
SITE 001	75	.0288	LD	.0241	.0244	.0245
PATERSON						
SITE 001	75	.0269	LD	.0176	LD	
PERTH AMBOY						
SITE 001	75	.0400	LD	.0783	.1704	.1963
TRENTON						
SITE 001	75	.0390	.0210	.0353	.0319	.0314
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	.0236	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.0213	.0094	.0390	.0111	.0203
BUFFALO						
SITE 001	75	.0661	.0231	.0236	.0200	.0334
NEW YORK CITY						
SITE 014	75	.0544	.0281	.0347	.0748	.0345
NIAGARA FALLS						
SITE 001	75	.0529	.1001	.1190	.0484	.0805
ROCHESTER						
SITE 001	75	.0342	.0217	.0241	.0390	.0245
SYRACUSE						
SITE 001	75	.0403	LD	.0210	.0130	.0314
UTICA						
SITE 001	75	.0518	.0090	.0141	.0120	.0232
YONKERS						
SITE 001	75	.0761	.1382	.1604	.1134	.1270
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.0196	.0257	.0207	.0648	.0296
DURHAM						
SITE 001	75	LD	.0419	.0404	LD	
DURHAM						
SITE 004	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.0501	.0514	LD	LD	
GREENSBORO						
SITE 009	75	LD	LD	LD	.0414	
WINSTON-SALEM						
SITE 002	75	.0333	.0531	.0488	.0775	.0606
NORTH DAKOTA						
BISMARCK						
SITE 001	75	.0304	LD	LD	LD	
OHIO						
AKRON						
SITE 019	75	.1128	.0428	.0910	.0910	.0870
CANTON						
SITE 001	75	.0362	.0334	.0314	LD	.0339
CINCINNATI						
SITE 001	75	.0408	.0277	.0378	.0378	.0393
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	.0227	.0220	.0262	.0328	.0292
DAYTON						
SITE 001	75	.0450	.0477	.0339	.0494	.0693
IRONTON						
SITE 009	75	.0871	.0246	.0240	.0983	.0885
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	.0373	.0149	.0256	LD	.0268
STEUBENVILLE						
SITE 012	75	LD	LD	.1505	.0483	
TOLEDO						
SITE 001	75	.0338	.0240	.0391	LD	.0733
YOUNGSTOWN						
SITE 001	75	.0349	.0361	.0914	.0620	.0613
OKLAHOMA						
CHEROKEE CO						
SITE 400	75	.0442	LD	LD	LD	
TULSA						
SITE 110	75	.0184	.0162	.0138	LD	.0130
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : SI(A) = TITANIUM
METHOD : HI-VOL EMISSION SPECTRO MUFFLE FURNACE
UNITS : MICRO METER CUBED
DATA TYPE : QUARTERLY COMPOSITE

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (DL) = .0016
95 PERCENT CONFIDENCE LIMITS
BIAS (B) = 0 PRECISION (P) = .54

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	.0739	.0681	.0277	.0554
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.0177	.0212	.0128	.0130	.0172
ALTOONA						
SITE 001	75	.0326	LD	.0176	.0150	.0217
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 002	75	LD	.0270	.0157	.0270	.0233
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 361	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.0580	LD	LD	.0292	
JOHNSTOWN						
SITE 003	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	.0231	
PHILADELPHIA						
SITE 009	75	.0307	.0265	.0261	.0346	.0300
PITTSBURGH						
SITE 001	75	.0719	.0959	.0537	.0374	.0620
READING						
SITE 001	75	LD	.0142	LD	LD	
SCRANTON						
SITE 001	75	.0563	.0315	.0278	LD	.0385
WARMINSTER						
SITE 002	75	.0152	.0329	.0361	LD	.0270
WEST CHESTER						
SITE 110	75	.0298	.0233	.0153	.0229	.0227
WILKES-BARRE						
SITE 001	75	.0177	.0378	.0100	.0366	.0340
YORK						
SITE 322	75	.0309	.0208	.0270	LD	.0262
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0153	.0321	.0548	.0171	.0304
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
AMELIA						
SITE 001	75	.0697	LD	.0401	.0241	.0470
PONCE						
SITE 002	75	.0176	LD	.0530	.0968	.0390
SABANA SECA						
SITE 001	75	.0660	.0401	.0351	.0264	.0419
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	.0574	.0892	.0504	.0322	.0451
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0254	.0251	.0201	LD	.0242

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.0919	LD	.0313	.0229	.0533
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.0176	.0299	.0151	.0280	.0213
GREENVILLE						
SITE 001	75	.0236	.0224	.0177	.0177	.0203
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	.0229	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	.0145	.0170	.0266	.0188	.0247
KNOXVILLE						
SITE 002	75	.0164	.0199	.0181	.0175	.0179
MEMPHIS						
SITE 001	75	.0168	.0219	.0237	.0177	.0199
NASHVILLE						
SITE 001	75	.0171	.0217	.0177	LD	.0188
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	.0743	.0106	.0085	LD	.0320
BEAUMONT						
SITE 001	75	LD	LD	.0178	LD	
CORPUS CHRISTI						
SITE 001	75	.0199	LD	.0164	.0137	.0169
DALLAS						
SITE 002	75	.0213	.0293	.0304	.0221	.0246
EL PASO						
SITE 002	75	.0369	.0929	.0276	.0497	.0392
FORT WORTH						
SITE 001	75	.0179	.0109	.0107	.0114	.0108
HOUSTON						
SITE 001	75	.0416	.0946	.0102	.0110	.0341
LUBBOCK						
SITE 001	75	.0211	LD	.0297	.0082	.0285
PASADENA						
SITE 002	75	.1072	.0291	LD	.0080	.0678
SAN ANTONIO						
SITE 038	75	.0065	.0092	.0065	.0083	.0064
WICHITA FALLS						
SITE 002	75	.0180	.0201	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	.0245	.0248	.0183	.0305
SALT LAKE CITY						
SITE 001	75	.0350	.0232	.0358	.0609	.0364
VERMONT						
BURLINGTON						
SITE 003	75	.0457	.0972	.0255	.0428	.0363
VIRGINIA						
DANVILLE						
SITE 001	75	.0399	.0389	LD	.0488	.0469
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0341	.0329	.0296	.0498	.0301
LYNCHBURG						
SITE 001	75	.0321	.0247	LD	.0479	.0289
LYNCHBURG						
SITE 002	75	LD	LD	.0329	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 22161 = TITANIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MICRO METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0036
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 42 PRECISION (P) +- 5%

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.0279	.0133	.0196	.0199
PORTSMOUTH						
SITE 001	75	.7404	LD	LD	.0234	
RICHMOND						
SITE 002	75	.0297	.0452	.0337	.0218	.0324
ROANOKE						
SITE 003	75	.0114	LD	.0142	.0108	.0121
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.0328	.0242	.0244	.0271
SPOKANE						
SITE 001	75	LD	.0932	.1042	.0592	.0997
TACOMA						
SITE 001	75	.0200	.0234	.0289	.0195	.0207
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	.0378	.0291	.0435	.0231	.0386
HUNTINGTON						
SITE 006	75	.0272	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	.0606	.0199	.0248	.0374	.0332
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.0126	.0291	.0367	.0177	.0224
KENOSHA						
SITE 001	75	LD	LD	.0229	.0213	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	.0172	.0199	LD	.0111	.0145
MILWAUKEE						
SITE 001	75	.0219	.0291	.0247	.0174	.0215
MILWAUKEE						
SITE 009	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0343	.0148	.0175	.0149	.0207
SUPERIOR						
SITE 001	75	.0141	.0212	LD	.0109	.0184
WYOMING						
CASPER						
SITE 001	75	.0204	.0159	.0248	.0168	.0203
CHEYENNE						
SITE 001	75	LD	.0090	.0209	.0149	.0198
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

POLLUTANT : 12161 - TITANIUM
METHOD : HI-VOL EMISSION SPECTRA RUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0034
95 PERCENT CONFIDENCE LIMITS
BIAS (B) .42 PRECISION (S) .44

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT PK						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 006	75	LD	LD	LD	LD	
ARKANSAS						
JOHNSON CO						
SITE 001	75	LD	.0031	LD	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PARK						
SITE 002	75	.0030	LD	.0103	.0056	.0072
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.0234	
FLORIDA						
HARDEE CO						
SITE 001	75	.0030	.0065	LD	LD	
HIGHLANDS CO.						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	.0109	.0913	LD	.0176	.0232
HAWAII VOLCANOES NP						
SITE 001	75	.0170	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	.0092	.0130	.0281	LD	.0151
ILLINOIS						
CHICAGO						
SITE 002	75	.0624	.0270	.0259	LD	.0354
INDIANA						
MONROE CO						
SITE 001	75	LD	.0197	.0201	.0123	.0174
PARKE CO						
SITE 001	75	LD	.0140	LD	LD	
ENERVILLE PAR						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 001	75	.0434	.0394	LD	.0050	.0193
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.0117	.0134	.0114	.0127
MISSISSIPPI						
JACKSON CO						
SITE 001	75	.0094	.0075	.0037	.0047	.0056
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	.0150	.0097	.0083	.0078	.0090
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	.0083	LD	
FORT HOWES						
SITE 004	75	LD	LD	.0098	.0094	
ASHLAND						
SITE 006	75	.0051	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	.0459	.0108	.0134	LD	.0234

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	.0181	.0092	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.1304	.0115	.0084	.0081	.0600
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	.0750	.0105	.0100	LD	.0330
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
DUXTON						
SITE 002	74	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	74	.0203	LD	.0230	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	.0223	.0207	.0783	.0681	.0524
OKLAHOMA CITY						
SITE 015	74	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	.0262	.0287	.0837	.1099	.0819
OREGON						
CURRY CO						
SITE 001	75	LD	.0184	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	.0116	LD	LD	LD	
INDIANA CO						
SITE 002	75	.1674	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	.0317	LD	.0278	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.0484	LD	.0082	.0110	.0229
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	.0078	.0103	.0087	.0084	.0091
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	74	LD	LD	.0044	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	.0092	.0138	.0194	.0108	.0121
TEXAS						
MATAGORDA CO						
SITE 001	75	.0260	.0092	.0101	.0092	.0111
TOM GREEN CO						
SITE 001	75	LD	.0181	.0078	.0113	.0129
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.0949	.0118	.0108	LD	.0210
VIRGINIA						
SHENANDOAH NAT PARK						
SITE 001	75	.0347	LD	.0099	.0148	.0140
WYTHE CO						
SITE 001	75	.0941	LD	.0059	.0047	.0342
WASHINGTON						
WINE CO						
SITE 002	75	.0130	.0269	.0213	.0080	.0166

POLLUTANT : 12141 - TITANIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : MG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0024
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 47 PRECISION (S) +- 58

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALASKA						
DOGH CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PAR						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PAR						
SITE 001	75	LD	.0037	.0092	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	.0428	.0363	LD	
ST CROIX						
SITE 004	75	LD	.0119	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

POLLUTANT : 12184 - VANADIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
V

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD): .0099
95 PERCENT CONFIDENCE LIMITS
BIAS (%): 21 PRECISION (%): +- 00

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ALABAMA						
BIRMINGHAM						
SITE 003	75	LD	LD	LD	LD	
GADSDEN						
SITE 001	75	LD	LD	LD	LD	
HUNTSVILLE						
SITE 001	75	LD	LD	LD	LD	
MOBILE						
SITE 001	75	.0117	LD	LD	LD	
MONTGOMERY						
SITE 001	75	LD	LD	LD	LD	
ALASKA						
ANCHORAGE						
SITE 003	75	LD	.0112	LD	LD	
FAIRBANKS						
SITE 001	75	LD	LD	LD	LD	
ARIZONA						
DOUGLAS						
SITE 004	75	LD	LD	LD	LD	
PHOENIX						
SITE 002	75	LD	LD	LD	LD	
TUCSON						
SITE 001	75	LD	LD	LD	LD	
ARKANSAS						
EL DORADO						
SITE 002	75	LD	LD	LD	LD	
LITTLE ROCK						
SITE 001	75	LD	LD	LD	LD	
TEXARKANA						
SITE 001	75	LD	LD	LD	LD	
WEST MEMPHIS						
SITE 001	75	LD	LD	LD	LD	
WEST MEMPHIS						
SITE 004	75	LD	LD	LD	LD	
CALIFORNIA						
ANAHEIM						
SITE 001	75	.0201	.0138	.0225	.0144	.0183
BERKELEY						
SITE 001	75	LD	LD	LD	LD	
BURBANK						
SITE 002	75	.0331	LD	.0168	.0204	.0234
FRESNO						
SITE 002	75	LD	LD	LD	.0134	
GLENDALE						
SITE 001	75	LD	LD	.0171	.0202	
LONG BEACH						
SITE 001	75	.0339	.0291	.0413	.0256	.0322
LOS ANGELES						
SITE 001	75	LD	.0196	.0195	.0215	.0202
OAKLAND						
SITE 001	75	LD	LD	LD	.0160	
ONTARIO						
SITE 001	75	.0398	LD	LD	LD	
PASADENA						
SITE 002	75	.0196	.0214	.0126	.0150	.0171
RIVERSIDE						
SITE 001	75	LD	LD	LD	LD	
SACRAMENTO						
SITE 001	75	LD	LD	LD	LD	
SAN BERNARDINO						
SITE 001	75	.0155	.0217	.0203	.0123	.0175
SAN DIEGO						
SITE 004	75	.0161	LD	.0109	LD	
SAN FRANCISCO						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
CALIFORNIA						
SAN JOSE						
SITE 004	75	LD	LD	LD	LD	
SANTA ANA						
SITE 001	75	.0211	.0211	.0300	.0306	.0293
TORRANCE						
SITE 001	74	.0310	.0234	.0200	.0271	.0254
COLORADO						
DENVER						
SITE 001	75	LD	LD	LD	LD	
DENVER						
SITE 002	75	.0166	.0115	LD	.0129	.0136
CONNECTICUT						
SPRINGFIELD						
SITE 001	75	.0231	.0241	LD	.0393	.0339
HARTFORD						
SITE 002	75	.0543	.0250	.0130	.0338	.0296
NEW HAVEN						
SITE 001	75	.2318	.0340	.0227	.0438	.0839
WATERBURY						
SITE 001	75	.0612	.0332	.0178	.0139	.0308
WATERBURY						
SITE 133	75	LD	LD	LD	LD	
DELAWARE						
NEWARK						
SITE 001	75	.0328	.0193	.0102	.0103	.0269
WILMINGTON						
SITE 002	75	.0501	LD	.0355	.0483	.0439
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 001	75	.1232	LD	LD	LD	
FLORIDA						
JACKSONVILLE						
SITE 002	75	.0421	.0595	.0881	.0478	.0668
MIAMI						
SITE 002	75	.0131	.0135	.0139	.0119	.0131
ST PETERSBURG						
SITE 002	75	.0214	.0141	.0214	.0383	.0319
TAMPA						
SITE 002	75	LD	LD	.0214	LD	
GEORGIA						
ATLANTA						
SITE 001	75	LD	LD	LD	.0117	
COLUMBUS						
SITE 001	75	LD	LD	LD	.0128	
SAVANNAH						
SITE 001	75	.0360	.0156	.0231	.0134	.0545
HAWAII						
MAUNA LOA OBSERV						
SITE 002	75	LD	LD	LD	LD	
HONOLULU						
SITE 001	75	.0214	.0275	.0387	.0420	.0336
IDAHO						
BOISE CITY						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
BLUE ISLAND						
SITE 001	75	LD	LD	LD	LD	
CHICAGO						
SITE 001	75	LD	.0157	.0190	.0300	.0215
EAST ST LOUIS						
SITE 001	75	LD	LD	LD	LD	
JOLIET						
SITE 001	75	LD	LD	LD	LD	
MOLINE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12145 = VANADIUM
METHOD : HI-VOL EMISSION SPECTRA RUFFLE BURNOFF
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0099
95 PERCENT CONFIDENCE LIMITS
BIAS (B) 21 PRECISION (R) +- 48

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ILLINOIS						
NORTH CHICAGO						
SITE 002	75	.0114	LD	LD	LD	
PEORIA						
SITE 001	75	LD	.0134	LD	LD	
ROCKFORD						
SITE 001	75	LD	LD	LD	LD	
ROCK ISLAND						
SITE 001	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 001	75	LD	LD	LD	LD	
INDIANA						
EAST CHICAGO						
SITE 001	75	.0201	.0193	LD	.0226	.0233
EVANSVILLE						
SITE 001	75	LD	LD	LD	LD	
FORT WAYNE						
SITE 002	75	LD	.0101	LD	LD	
FORT WAYNE						
SITE 003	75	LD	LD	LD	LD	
GARY						
SITE 001	75	.0184	LD	LD	.0147	
HAMMOND						
SITE 002	75	.0189	.0194	LD	LD	
INDIANAPOLIS						
SITE 001	75	LD	LD	LD	LD	
INDIANAPOLIS						
SITE 002	75	LD	LD	LD	LD	
MUNCIE						
SITE 001	75	LD	LD	LD	LD	
NEW ALBANY						
SITE 002	75	LD	LD	LD	LD	
SOUTH BEND						
SITE 002	75	.0174	.0119	.0176	LD	.0156
TERRE HAUTE						
SITE 001	75	LD	LD	LD	LD	
IOWA						
CEDAR RAPIDS						
SITE 01A	75	LD	LD	LD	LD	
DAVENPORT						
SITE 001	75	LD	LD	LD	LD	
DES MOINES						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 001	75	LD	LD	LD	LD	
DUBUQUE						
SITE 002	75	LD	LD	LD	LD	
DUBUQUE						
SITE 004	75	LD	LD	LD	LD	
WATERLOO						
SITE 004	75	LD	LD	LD	LD	
WATERLOO						
SITE 00A	75	LD	LD	LD	LD	
KANSAS						
KANSAS CITY						
SITE 002	75	.0203	LD	LD	LD	
KANSAS CITY						
SITE 011	75	LD	LD	LD	LD	
KANSAS CITY						
SITE 012	75	.0382	.0178	LD	.0117	.0212
KANSAS CITY						
SITE 015	75	LD	LD	LD	LD	
TOPEKA						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
KANSAS						
WICHITA						
SITE 001	75	LD	LD	LD	LD	
KENTUCKY						
ASHLAND						
SITE 002	75	LD	LD	LD	LD	
BOWLING GREEN						
SITE 001	75	LD	LD	LD	LD	
COVINGTON						
SITE 001	75	LD	LD	LD	LD	
LEXINGTON						
SITE 001	75	LD	LD	LD	LD	
LOUISVILLE						
SITE 002	75	LD	LD	LD	LD	
LOUISIANA						
BATON ROUGE						
SITE 002	75	LD	LD	LD	LD	
JEFFERSON PAR						
SITE 002	75	LD	LD	LD	LD	
NEW ORLEANS						
SITE 002	75	.0147	LD	LD	LD	
SHREVEPORT						
SITE 001	75	LD	LD	LD	LD	
MAINE						
PORTLAND						
SITE 004	75	LD	LD	LD	.1167	
MARYLAND						
BALTIMORE						
SITE 001	75	.0913	.0579	.0241	.0523	.0574
MASSACHUSETTS						
BOSTON						
SITE 001	75	.1064	LD	LD	LD	
BOSTON						
SITE 012	75	LD	LD	LD	LD	
CAMBRIDGE						
SITE 001	75	.0642	LD	LD	LD	
FALL RIVER						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 001	75	LD	LD	LD	LD	
NEW BEDFORD						
SITE 002	75	LD	LD	LD	LD	
SPRINGFIELD						
SITE 002	75	LD	LD	LD	.0937	
WORCESTER						
SITE 004	75	LD	LD	.0131	.0499	
MICHIGAN						
DEARBORN						
SITE 001	75	.0135	LD	LD	LD	
DETROIT						
SITE 001	75	.0130	LD	.0144	LD	
FLINT						
SITE 00A	75	LD	LD	LD	LD	
GRAND RAPIDS						
SITE 001	75	LD	LD	LD	LD	
LANSING						
SITE 001	75	LD	LD	LD	LD	
SAGINAW						
SITE 001	75	LD	LD	LD	LD	
TRENTON						
SITE 004	75	LD	LD	.0149	LD	
MINNESOTA						
DULUTH						
SITE 001	75	LD	LD	LD	LD	
MINNEAPOLIS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 12184 - VANADIUM
METHOD : HI-VOL EMISSION SPECTRO MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0020
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 40

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
MINNESOTA						
MINNEAPOLIS						
SITE 027	75	.0151	LD	LD	LD	
MINNEAD						
SITE 001	75	LD	LD	LD	LD	
ST PAUL						
SITE 031	75	.0151	LD	LD	.0169	
MISSISSIPPI						
JACKSON						
SITE 002	75	LD	LD	LD	LD	
MISSOURI						
KANSAS CITY						
SITE 002	75	LD	.0174	LD	LD	
ST LOUIS						
SITE 001	75	LD	LD	LD	LD	
ST LOUIS						
SITE 022	75	LD	LD	LD	LD	
MONTANA						
HELENA						
SITE 001	75	LD	LD	LD	.0920	
NEBRASKA						
LINCOLN						
SITE 002	75	LD	LD	LD	.0110	
OMAHA						
SITE 001	75	.0114	LD	LD	LD	
OMAHA						
SITE 030	75	LD	LD	LD	.0140	
OMAHA						
SITE 034	75	LD	LD	LD	LD	
NEVADA						
LAS VEGAS						
SITE 001	75	LD	LD	LD	LD	
RENO						
SITE 001	75	.0168	LD	LD	.0139	
NEW HAMPSHIRE						
CONCORD						
SITE 002	75	.0026	LD	LD	.0081	
NEW JERSEY						
BAYONNE						
SITE 001	75	.0433	LD	.0311	.0999	.0618
CAMDEN						
SITE 001	75	.0499	.0429	.0357	.0963	.0687
CAMDEN CO						
SITE 002	75	LD	LD	LD	LD	
CAMDEN CO						
SITE 003	75	LD	.0201	.0211	.0312	.0241
ELIZABETH						
SITE 002	75	.0383	.0285	.0137	.0394	.0298
GLASSBORO						
SITE 001	75	.0595	.0162	.0498	.0313	.0380
HAMILTON						
SITE 001	75	LD	LD	LD	LD	
JERSEY CITY						
SITE 001	75	.0732	LD	.0308	.0354	.0465
NEWARK						
SITE 001	75	.0319	LD	.0157	.0308	.0242
PATERSON						
SITE 001	75	.0452	LD	.0303	LD	
PERTH AMBOY						
SITE 001	75	.0284	LD	.0230	.0304	.0304
TRENTON						
SITE 001	75	.0423	.0309	.0360	.0417	.0377
NEW MEXICO						
ALBUQUERQUE						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEW YORK						
ALBANY						
SITE 001	75	.0251	.1399	.0912	.1458	.1004
BUFFALO						
SITE 001	75	.0288	.0193	.0108	.0331	.0183
NEW YORK CITY						
SITE 019	75	.0661	.0475	.0293	.0403	.0465
NIAGARA FALLS						
SITE 001	75	.0816	.0313	.0120	.0133	.0368
ROCHESTER						
SITE 001	75	.0153	.0159	.0188	.0320	.0193
SYRACUSE						
SITE 001	75	.0503	LD	.0127	.0178	.0336
UTICA						
SITE 001	75	.0420	.0342	.0384	.0428	.0449
YONKERS						
SITE 001	75	.0929	.0451	.0331	.0470	.0531
NORTH CAROLINA						
CHARLOTTE						
SITE 001	75	.0198	.0112	.0114	.0408	.0208
DURHAM						
SITE 001	75	LD	.0514	.0237	LD	
DURHAM						
SITE 006	75	LD	LD	LD	LD	
GREENSBORO						
SITE 001	75	.0533	.0152	LD	LD	
GREENSBORO						
SITE 008	75	LD	LD	LD	.0368	
WINSTON-SALEM						
SITE 002	75	.0379	.0178	.0183	.0499	.0310
NORTH DAKOTA						
BISMARCK						
SITE 001	75	LD	LD	LD	LD	
OHIO						
AKRON						
SITE 019	75	LD	LD	LD	LD	
CANTON						
SITE 001	75	LD	LD	LD	LD	
CINCINNATI						
SITE 001	75	LD	LD	LD	LD	
CLEVELAND						
SITE 001	75	LD	LD	LD	LD	
COLUMBUS						
SITE 001	75	LD	LD	LD	LD	
DAYTON						
SITE 001	75	LD	LD	LD	LD	
IRONTON						
SITE 009	75	LD	LD	LD	LD	
MANSFIELD						
SITE 008	75	LD	LD	LD	LD	
PORTSMOUTH						
SITE 002	75	LD	LD	LD	LD	
STEUBENVILLE						
SITE 012	75	LD	LD	.0100	LD	
TOLEDO						
SITE 001	75	LD	LD	LD	LD	
YOUNGSTOWN						
SITE 001	75	LD	LD	LD	LD	
OKLAHOMA						
CHEROKEE CO						
SITE 480	75	LD	LD	LD	LD	
TULSA						
SITE 110	75	LD	LD	LD	LD	
OREGON						
EUGENE						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 23160 - VANADIUM
METHOD : 104-VOL EMISSION SPECTRO MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

URBAN
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ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0009
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 2) PRECISION (%) +- 40

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
OREGON						
MEDFORD						
SITE 001	75	LD	LD	LD	LD	
PORTLAND						
SITE 001	75	LD	.0234	.0117	.0341	.0231
PENNSYLVANIA						
ALLENTOWN						
SITE 001	75	.1122	.0801	.0294	.0713	.0733
ALTOONA						
SITE 001	75	LD	LD	LD	LD	
BETHLEHEM						
SITE 002	75	LD	LD	LD	LD	
ERIE						
SITE 003	75	LD	LD	LD	.0110	
HARRISBURG						
SITE 001	75	LD	LD	LD	LD	
HARRISBURG						
SITE 101	75	LD	LD	LD	LD	
HAZLETON						
SITE 001	75	.0390	LD	LD	.0174	
JOHNSTOWN						
SITE 003	75	LD	LD	LD	LD	
LANCASTER CITY						
SITE 002	75	LD	LD	LD	.0567	
PHILADELPHIA						
SITE 009	75	.0744	.0531	.0271	.0530	.0520
PITTSBURGH						
SITE 001	75	LD	LD	LD	LD	
READING						
SITE 001	75	LD	.0437	LD	LD	
SCRANTON						
SITE 001	75	.0502	.0307	.0229	LD	.0346
WARMINSTER						
SITE 002	75	.0258	.0357	.0180	LD	.0265
WEST CHESTER						
SITE 110	75	.0639	.0939	.0253	.0351	.0417
WILKES-BARRE						
SITE 001	75	.0233	.0198	LD	.0180	.0202
YORK						
SITE 327	75	.0814	.0739	.0776	LD	.0775
PUERTO RICO						
BAYAMON						
SITE 002	75	LD	LD	LD	LD	
CATANO						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	LD	LD	LD	LD	
GUAYANILLA						
SITE 002	75	.0916	.0634	.0498	.0379	.0654
GUAYANILLA						
SITE 003	75	LD	LD	LD	LD	
JUNCOS						
SITE 001	75	.1496	LD	.0931	.0993	.1090
PONCE						
SITE 002	75	LD	LD	.0138	.0209	
SABANA SECA						
SITE 001	75	.0913	.0279	.0320	.0721	.0533
SAN JUAN						
SITE 001	75	LD	LD	LD	LD	
SAN JUAN						
SITE 001	75	LD	.0171	.0131	LD	
RHODE ISLAND						
EAST PROVIDENCE						
SITE 001	75	.0638	.0310	.0216	LD	.0388
RHODE ISLAND						
PROVIDENCE						
SITE 001	75	.2957	LD	.0345	.0719	.1279
SOUTH CAROLINA						
COLUMBIA						
SITE 001	75	.0145	LD	LD	.0495	
GREENVILLE						
SITE 001	75	.0339	.0234	.0201	.0469	.0318
SOUTH DAKOTA						
SIOUX FALLS						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CHATTANOOGA						
SITE 001	75	LD	LD	.0118	LD	
KNOXVILLE						
SITE 002	75	LD	LD	LD	.0488	
MEMPHIS						
SITE 001	75	LD	LD	LD	LD	
NASHVILLE						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
AMARILLO						
SITE 002	75	LD	LD	LD	LD	
AUSTIN						
SITE 010	75	LD	LD	LD	LD	
BEAUMONT						
SITE 001	75	LD	LD	LD	LD	
CORPUS CHRISTI						
SITE 001	75	LD	LD	LD	LD	
DALLAS						
SITE 002	75	LD	LD	LD	LD	
EL PASO						
SITE 002	75	LD	LD	LD	LD	
FORT WORTH						
SITE 001	75	LD	LD	LD	LD	
HOUSTON						
SITE 001	75	LD	LD	LD	LD	
LUBBOCK						
SITE 001	75	LD	LD	LD	LD	
PASADENA						
SITE 002	75	LD	LD	LD	LD	
SAN ANTONIO						
SITE 039	75	LD	LD	LD	LD	
WICHITA FALLS						
SITE 002	75	LD	LD	LD	LD	
UTAH						
OGDEN						
SITE 001	75	LD	LD	LD	LD	
SALT LAKE CITY						
SITE 001	75	LD	LD	LD	LD	
VERMONT						
BURLINGTON						
SITE 003	75	.0300	.0166	.0153	.0540	.0290
VIRGINIA						
DANVILLE						
SITE 001	75	.0274	.0174	LD	.0139	.0262
MCLEAN						
SITE 001	75	LD	LD	LD	LD	
HAMPTON						
SITE 001	75	.0434	.0475	.0274	.0488	.0467
LYNCHBURG						
SITE 001	75	.0167	.0194	LD	.0288	.0218
LYNCHBURG						
SITE 002	75	LD	LD	LD	LD	
NEWPORT NEWS						
SITE 001	75	LD	LD	LD	LD	

POLLUTANT : 23204 - VANADIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : NG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

UPRAM
V

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD) .0009
95 PERCENT CONFIDENCE LIMITS
BIAS (+) 2% PRECISION (R) +- 40

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
VIRGINIA						
NORFOLK						
SITE 001	75	LD	.0672	.0478	.1095	.0748
PORTSMOUTH						
SITE 001	75	.1211	LD	LD	.0843	
RICHMOND						
SITE 002	75	.1085	.1701	.0935	.2048	.1667
ROANOKE						
SITE 003	75	LD	LD	LD	.0122	
WASHINGTON						
SEATTLE						
SITE 001	75	LD	.0107	.0100	.0294	.0167
SPOKANE						
SITE 001	75	LD	LD	.0153	LD	
TACOMA						
SITE 001	75	.0197	LD	LD	.0188	
WEST VIRGINIA						
CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
HUNTINGTON						
SITE 005	75	LD	LD	LD	LD	
SOUTH CHARLESTON						
SITE 001	75	LD	LD	LD	LD	
WISCONSIN						
EAU CLAIRE						
SITE 002	75	.0114	LD	LD	LD	
KENOSHA						
SITE 001	75	LD	LD	LD	LD	
KENOSHA						
SITE 003	75	LD	LD	LD	LD	
MADISON						
SITE 001	75	LD	LD	LD	LD	
MILWAUKEE						
SITE 001	75	LD	LD	LD	LD	
MILWAUKEE						
SITE 009	75	LD	LD	LD	LD	
RACINE						
SITE 002	75	.0118	LD	LD	LD	
SUPERIOR						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
CASPER						
SITE 001	75	LD	LD	LD	LD	
CHEYENNE						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST CROIX						
SITE 008	75	LD	LD	LD	LD	

POLLUTANT : 23(A) = VANADIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
V

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION (LIMIT (LD) .0099
95 PERCENT CONFIDENCE LIMITS
RISK (%) 5) PRECISION (%) +- 50

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
ARIZONA						
GRAND CANYON NAT P						
SITE 001	75	LD	LD	LD	LD	
MARICOPA CO						
SITE 006	75	LD	LD	LD	LD	
ARKANSAS						
MONTGOMERY CO						
SITE 001	75	LD	LD	LD	LD	
CALIFORNIA						
HUMBOLDT CO						
SITE 001	75	LD	LD	LD	LD	
COLORADO						
MESA VERDE NAT PAR						
SITE 002	75	LD	LD	LD	LD	
DELAWARE						
KENT CO						
SITE 001	75	LD	LD	LD	LD	
DISTRICT OF COLUMBIA						
WASHINGTON						
SITE 003	75	LD	LD	LD	.0330	
FLORIDA						
MANATEE CO						
SITE 001	75	LD	LD	LD	LD	
HIGHLANDS CO,						
SITE 002	75	LD	LD	LD	LD	
HAWAII						
HAWAII CO						
SITE 001	75	LD	LD	LD	LD	
HAWAII CO						
SITE 002	75	LD	LD	LD	LD	
HAWAII VOLCANOES NT						
SITE 001	75	LD	LD	LD	LD	
IDAHO						
BUTTE CO						
SITE 001	75	LD	LD	LD	LD	
ILLINOIS						
CHICAGO						
SITE 002	75	.0509	.0194	LD	LD	
INDIANA						
MONROE CO						
SITE 001	75	LD	LD	LD	LD	
PARKE CO						
SITE 001	75	LD	LD	LD	LD	
JEFFERSONVILLE MAP						
LOUISIANA						
SITE 001	75	LD	LD	LD	LD	
MAINE						
ACADIA NAT PARK						
SITE 301	75	.0176	.0100	LD	LD	
MARYLAND						
CALVERT CO						
SITE 001	75	LD	.0186	.0249	.0221	.0217
MISSISSIPPI						
JACKSON CO						
SITE 001	75	LD	LD	LD	LD	
MISSOURI						
ST LOUIS						
SITE 002	75	LD	LD	LD	LD	
SHANNON CO						
SITE 002	75	LD	LD	LD	LD	
MONTANA						
GLACIER NAT PARK						
SITE 001	75	LD	LD	LD	LD	
FORT HOWES						
SITE 008	75	LD	LD	LD	LD	
ASHLAND						
SITE 02A	75	LD	LD	LD	LD	
NEBRASKA						
THOMAS CO						
SITE 001	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
NEVADA						
WHITE PINE CO						
SITE 001	75	LD	LD	LD	LD	
NEW HAMPSHIRE						
COOS CO						
SITE 001	75	.0342	LD	.0173	.0169	.0224
NEW MEXICO						
RIO ARRIBA CO						
SITE 001	75	LD	LD	LD	LD	
NEW YORK						
JEFFERSON CO						
SITE 001	75	LD	.0179	LD	LD	
NORTH CAROLINA						
CAPE HATTERAS NAT						
SITE 001	75	LD	LD	LD	LD	
DUXTON						
SITE 002	75	LD	LD	LD	LD	
OHIO						
CINCINNATI						
SITE 003	75	.0101	LD	LD	LD	
OKLAHOMA						
OKLAHOMA CITY						
SITE 001	75	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	74	LD	LD	LD	LD	
OKLAHOMA CITY						
SITE 015	75	LD	LD	LD	.0280	
OREGON						
CURRY CO						
SITE 001	75	LD	LD	LD	LD	
PENNSYLVANIA						
CLARION CO						
SITE 001	75	LD	LD	LD	LD	
INDIANA CO						
SITE 002	75	LD	LD	LD	LD	
PHILADELPHIA						
SITE 002	75	.0432	LD	.0211	LD	
RHODE ISLAND						
WASHINGTON CO						
SITE 002	75	.0217	LD	LD	.0188	
SOUTH CAROLINA						
RICHLAND CO						
SITE 002	75	LD	LD	LD	.0200	
SOUTH DAKOTA						
BLACK HILLS NAT FO						
SITE 001	75	LD	LD	LD	LD	
TENNESSEE						
CUMBERLAND CO						
SITE 001	75	LD	LD	LD	LD	
TEXAS						
MATAGORDA CO						
SITE 001	75	LD	LD	LD	LD	
TOM GREEN CO						
SITE 001	75	LD	LD	LD	LD	
UTAH						
EMERY COUNTY						
SITE 003	75	LD	LD	LD	LD	
VERMONT						
ORANGE CO						
SITE 001	75	.0275	LD	LD	LD	
VIRGINIA						
SHENANDOAH NAT PAR						
SITE 001	75	LD	LD	LD	.0183	
WAYNE CO						
SITE 001	75	LD	LD	LD	LD	
WASHINGTON						
KING CO						
SITE 002	75	LD	LD	LD	LD	

POLLUTANT : 12184 - VANADIUM
METHOD : HI-VOL EMISSION SPECTRA MUFFLE FURNACE
UNITS : UG/CU METER (25 C)
DATA TYPE : QUARTERLY COMPOSITE

NON-URBAN
V

ANALYTICAL QUALITY
ANALYTICAL DISCRIMINATION LIMIT (LD): .0099
95 PERCENT CONFIDENCE LIMITS
BIAS (%) 21 PRECISION (%) +- 40

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.
WISCONSIN						
DOOR CO						
SITE 001	75	LD	LD	LD	LD	
WYOMING						
GRAND TETON NAT PA						
SITE 001	75	LD	LD	LD	LD	
YELLOWSTONE NAT PA						
SITE 001	75	LD	LD	LD	LD	
VIRGIN ISLANDS						
ST THOMAS						
SITE 002	75	LD	.0204	.0130	LD	
ST CROIX						
SITE 004	75	LD	LD	LD	LD	

LOCATION	YR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	YR. AVG.

APPENDIX A

CONFIDENCE LIMITS OF MEASURED VALUES

The usual formula for computing confidence limits of individual values when the precision is measured as the coefficient of variation is:

$$L_u = X(1 + t_{\alpha/2}\, C_v/100) \tag{A-1a}$$

$$L_\ell = X(1 - t_{\alpha/2}\, C_v/100) \tag{A-1b}$$

where L_u = upper limit

X = the measured value

$t_{\alpha/2}$ = the t statistic for the desired confidence

C_v = the coefficient of variation expressed as a percentage

L_ℓ = lower limit

As an example, assume that the precision of an air pollution measurement system as measured by the coefficient of variation is 5.1 percent. An individually measured value of .475 $\mu g/m^3$ was observed. Assuming a 95 percent confidence interval (α=0.05) and a large number of degrees of freedom, $t_{0.025}$=1.96. Therefore, the 95 percent confidence limits for the true value are:

$$L_u = .475[1 + (1.96)(5.1)/100] \tag{A-2a}$$

$$= .523\ \mu g/m^3$$

$$L_\ell = .475[1 - (1.96)(5.1)/100] \tag{A-2b}$$

$$= .428\ \mu g/m^3$$

Note that these limits are symmetric about the observed value.

Since use of the coefficient of variation implies that the precision is a function of the concentration level, more correct formulas for computing the confidence limits are:

$$L_u = \frac{X}{1 - t_{\alpha/2}\, C_v/100} \qquad \text{(A-3a)}$$

$$L_\ell = \frac{X}{1 + t_{\alpha/2}\, C_v/100} \qquad \text{(A-3b)}$$

Using the data in the previous example, the upper and lower 95 percent confidence limits are:

$$L_u = \frac{.475}{1 - (1.96)(5.1)/100} = .528\ \mu g/m^3 \qquad \text{(A-4a)}$$

$$L_\ell = \frac{.475}{1 + (1.96)(5.1)/100} = .432\ \mu g/m^3 \qquad \text{(A-4b)}$$

These limits are asymmetric (as they should be) about the observed value and they result in a slightly wider confidence interval than given by A-2a and A-2b.

The graphical representation of the procedure is shown in Figure A-1.

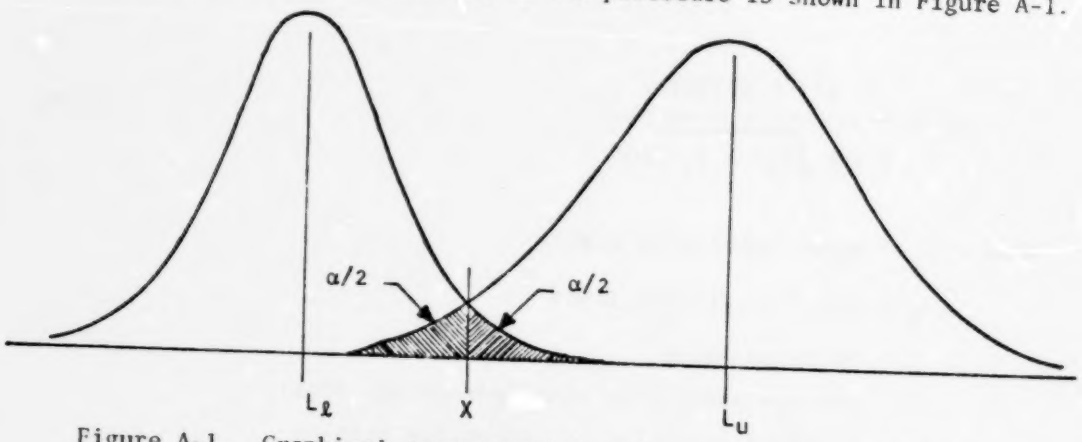

Figure A-1. Graphical representation of upper and lower confidence intervals for an individually measured concentration value when precision is evaluated over a range of concentration levels.

The confidence limits in equation A-3 were derived from Figure A-1 as follows:

$$X = L_u(1 - t_{\alpha/2}\, C_v/100) \tag{A-5a}$$

$$X = L_\ell(1 + t_{\alpha/2}\, C_v/100) \tag{A-5b}$$

Therefore,

$$L_u = \frac{X}{1 - t_{\alpha/2}\, C_v/100} \tag{A-6a}$$

$$L_\ell = \frac{X}{1 + t_{\alpha/2}\, C_v/100} \tag{A-6b}$$

The general formula for computing confidence intervals when both bias and precision are in percentage of concentration level, and when the bias varies from time to time in random manner, is as follows:

$$L_u = \frac{X(1 + B/100)}{1 - k\sqrt{S_B^2 + C_v^2}/100} \tag{A-7a}$$

$$L_\ell = \frac{X(1 + B/100)}{1 + k\sqrt{S_B^2 + C_v^2}/100} \tag{A-7b}$$

where L_u = upper confidence limit

L_ℓ = lower confidence limit

X = measured value

B = average percentage bias (percentage loss)

S_B = standard deviation of percentage bias

C_v = coefficient of variation for precision, percent

k = standard normal deviate for desired confidence level